DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

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RAYNOLDS & NOURSE, PROPRIETORS. OFFICE....QUINCY HALL. SIMON BROWN, EDITOR. FRED'K HOLBROOK, } ASSOCIATE
HENRY F. FRENCH, } EDITORS.

CALENDAR FOR OCTOBER.

"The woodpath is carpeted over with leaves,
The glories of AUTUMN decay;
The Goddess of Plenty has bound up her sheaves,
And carried the Harvest away."

BRYANT, in his beautiful poem on the "Death of the Flowers," where he so vividly describes our autumn scenery, says,—

"The *melancholy* days are come, the saddest of the year,"—

and in so saying, only utters the common sentiment of nearly all our people. There is, in one sense, a melancholy aspect in the dying year.—The bright fulness and vigor of the grass and leaves and flowers, has shrunk and bowed a little, as the first touches of age and care upon a beautiful woman. "Every day a flower drops from out the wreath that binds its brow—not to be renewed. Every hour the sun looks more and more askance upon it, and the winds, those summer flatterers, come to it less fawningly. Every breath shakes down showers of its leafy attire, leaving it gradually barer and barer, for the blasts of winter to blow through it. Every morning and evening takes away from it a portion of that light which gives beauty to its life, and chills it more and more into that torpor which at length constitutes its temporary death. And yet October is beautiful still, no less 'for what it gives than what it takes away;' and even for what it gives during the very act of taking away."

Spring brings its gentle airs, its bursting buds and expanding flowers, and summer puts on its full dress of "living green;" but autumn, like the lady who doubts whether her charms are as attractive as they once were, puts on her livery of many hues, and sports in gorgeous colors.

OCTOBER is an important month to the farmer in many particulars. Great care is necessary in preserving the crops he has labored so assiduously to obtain, and in preserving the seeds upon which he is to depend for future crops.

APPLES.—Unusual care with this fruit will be well repaid this year by the high price which they will command. Apples will keep better by being placed on frames in a cool cellar as soon as taken from the tree; or, if put in barrels, place them at once in the cellar, rather than leave them out exposed during the day to the hot sun and to the low temperature of the nights. These constant changes are injurious. Great care is necessary in the first place, in picking and assorting them.—Half a peck of bad apples in a barrel would spoil the sale of the whole with many a good customer; assort them into different grades, and the high price on the best will bring up a fair average on the whole. All articles sent to market should be assorted in this way. Sales are then quick, as the whole matter is readily understood by both parties.

ROOTS.—Sugar beets and mangel wurtzel should be secured before any severe frosts occur. But as soon as arrived at maturity, which may be known by the discolored and dead leaves, they should be harvested, or they lose some of their nutritious properties.

Ruta bagas, and flat turnips may remain till the ground begins to freeze; they still grow when heavy frosts occur, and when the weather is quite cold.

CABBAGES may also remain out till snow falls. A fine way to preserve them for winter use is to dig a trench in the cellar, and after taking the plants up, roots and all, set them closely in the trench, where they will keep fresh and hard till spring, if the light is excluded.

CAULIFLOWERS may be kept in the same manner, and will throw out fine heads on plants that had but just begun to head when taken from the garden. But they must have the light.

All roots that have come to maturity and are placed away for winter use, are better for having the light excluded.

SQUASHES.—These may be kept through the en-

tire winter by hanging them up in rooms where they will not freeze. They surely rot if laid in a mass, touching each other.

Pumpkins may be packed in straw or hay in warm barns and kept a long time without freezing, and then make a change of food for milch cows which they highly relish.

Seeds.—Too much care cannot be taken to preserve the best seeds for future planting, and have them placed where they will be free from the depredations of mice, and from dampness. It is a poor time to hunt up seeds and decide what it is best to sow and plant after the soil is ready for the seed.

Timber and Fuel.—It is said that timber and fuel cut from July to November is more valuable than if prepared at any other season.

Husking.—This work is too often done in a careless and slovenly manner. The tips and butts of the ear should be taken off, as well as the silks. To do this work well, pays well in the end.—Large quantities of corn piled in the barn at once, are liable to heat, and injure the grain. It is much less liable to hurt in the field.

October is one of the most delightful months of our climate. No blight has fallen upon the crops to make futile the labors of the farmer's hands, and amid the ingathering of the bountiful products of the year, he ought to possess a constantly greatful heart, and realize a great deal of enjoyment.

For the New England Farmer.

NORTHERN APPLES.

Mr. Editor:—At the State Fair recently held at Montpelier, several varieties of apples which were new to me were presented by Mr. Bailey, of Plattsburgh, N. Y., a gentleman of much urbanity, and of great intelligence in all matters relating to the growing of fruit. Perhaps your readers are better acquainted with them than I am. But they seemed to me worthy of a passing notice.

The *Bailey Spice*, a seedling which Mr. Bailey has introduced, is a beautiful white apple, with furrows running from the stem to the calyx, of medium size, sprightly, pleasant, comes to maturity about the last of September, a fine apple for the table and for cooking.

The *Champlain* is a smaller white apple. The flesh is white and delicate, of agreeable flavor. The *Sally Autumn*, a delicate light red apple, tapering towards the calyx, ripe in October. The *Walworth*, a small white apple, with a rich blush on one side, and the *St. Lawrence*, a good sized apple, green, with a few red stripes near the stem, rather tart for a table apple, but juicy, and good for cooking, hardy and a good bearer. He had also some fine specimens of the *Alexander*, an apple I think already known to our nurserymen—a large, fine looking red apple, and the *Rosseau*, which I need not describe. The first four varieties seem to me worthy of attention. I think if introduced into our gardens, they would become larger under the influence of our more genial climate. The *Bailey Spice* would probably reach maturity early in September, as it would blossom somewhat earlier with us, and would prove a fine fall apple. Perhaps it would equal the *Porter*, which it somewhat resembles. At any rate, it would increase the number of our fine autumnal apples; I have engaged some grafts for next spring. Mr. B. will supply all orders for them.

Yours, &c., J. R.

Concord, Sept. 24.

For the New England Farmer.

LYNN HORTICULTURAL EXHIBITION.

Friend Brown:—Lynn has become proverbial for its enterprise in the department of *Shoes*, of every *grade* and *size*. You may go east or west, north or south; from the *Atlantic* to the *Pacific*—*Florida* to the *Provinces*; and the name of *Lynn* is as familiar as household words; *Moll Pitcher*, and her mysterious acts, are famous in *story* and song; and who has not heard of "*High Rock*!" Still, there are other things in which *Lynn* is not behind the times; it is in her fine *schools* and beautiful *gardens*. The first, to raise plants of "*renown*," the other to please the eye, and gratify the *sense* and *taste*. Last evening, I had the extreme pleasure of attending one of those exhibitions of fruits and flowers, (so common at the present time,) at *Exchange Hall*. The fruit and flowers exhibited, were the productions of the gardens in this *City*, and under the direction of the Horticultural Society. Among the managers are the names of B. F. Mudge, Ex-Mayor of this city, Ebenezer Brown, Rev. Mr. Shackford, Otis Johnson, Robert Bartlett, and H. A. Breed. H. A. Breed had 42 varieties of pears, and other choice fruit and flowers. E. Brown had 40 varieties of pears and 24 kinds of apples. Otis Johnson had 24 kinds of pears, and other choice fruit. Rev. Mr. Shackford had a good assortment of apples, pears, peaches, quinces, &c. Otis Johnson had a large variety of rare fruit. Robert Bartlett had some fine Seckel pears, the largest I have ever seen, also grapes, peaches, pears, flowers, &c. The whole affair was well got up, and spiced by the presence of a large number of ladies. This looks well for this young city—may prosperity attend her in the future.

Sept. 17th, 1853. J. Robinson.

English Horses.—Horses in England are deteriorating; as a race, they are growing more delicate. At the military encampment at Cobham, the horses are carefully housed; whereas in former times, they could do very well in the open air. Modern English horses are also liable to have sore backs after a short march, and they are so weak in the legs that a number of such marches would soon produce lameness. The useful class of horses which formerly supplied the cavalry no longer exists. Breeders confine themselves to raising thorough-breds for the turf, to cart-horses, harness-horses, and hunters.

☞ In some parts of London, land is valued at the rate of two million dollars an acre.

For the New England Farmer.

"OLD FIELDS."

MESSRS. EDITORS:—Your correspondent R. B. H. in the *N. E. Farmer* 20th of August, expresses a correct idea of the land called "old fields" at the present day, and the bad treatment they have received from their owners. These old fields were considered the best land by the first settlers; they most readily yielded the important articles which constitute the "staff of life." If they could talk, it would be on this wise to the proprietors: "you have shown partiality; you have bestowed labor and manure on lands less deserving than we are, because they were obstinate and would not produce without; while we were ever obedient and freely yielded our utmost mite for your benefit, without manure or much labor; and now, because we cannot do more, you despise us and show your ingratitude by giving us a bad character and bestowing all your favors on hard, stony, cold lands you could not coax nor drive to produce a crop without manure and an abundance of labor; whereas, if you had treated us so and not slighted and starved us, but had bestowed upon us the same amount of manure and half the labor, we should have continued to reward you with as valuable, if not better crops, to this day, than your favorites, mud, clay and stones." I have had an opportunity to be acquainted with the use, and have seen the abuse of "old fields" or pine plains; it was my lot to be born on old fields; I received my nourishment from old fields, and a plenty of it too, and grew six feet high on old fields, and was educated on old fields, as any one would readily suppose by reading this.

The times have strangely altered since the war of 1812; corn and rye were dear and labor cheap, during a period of twenty years or more dating from 1792. Rye, if I remember aright, averaged as high as $1,25 or $1,50 a bushel from that time till 1820; it sold at $2,50 in the time of the last war with England, and in the years 1836 and 1837 it sold for $2 or more a bushel, so that skinning old fields in those days was a kind of necessary evil. At the above named periods farmers in New England were compelled to raise their own bread stuff; very few were able to eat wheat flour brought from the West, it being proportionably dear, which made the skinning of old fields a more excusable business than at the present day. When a man's labor was worth but 75 cents a day and rye worth $1,25 or $1,50 a bushel, there was an inducement to encourage the farmers to raise rye; but now labor is worth a dollar a day and rye but 83 cents, the farmer can sell his time at a higher price than he would get by continuing the process of skinning old fields. At the former period spoken of above, it was difficult for a farmer to find employment off from his own farm; and if he could it was more difficult to get cash pay; and he could do better at raising rye on old fields, even at 7 bushels to the acre, than doing nothing. Now he had better convert his old fields into sheep-pastures or woodlots than raise rye upon them at the high price of labor and the low price of rye. Summer fallowing was formerly practised in Middlesex, as now stated to be the case by R. B. H. in Hampshire County; but the practice has been abandoned for years by many of the rye producers here, because frequent plowings they consider injures light soils by exposing them so much to the weather that the fertilizing principles in the soil are dissipated.

The most successful method of raising rye on old fields that I have witnessed, and least injurious to the soil, is to plow the ground well in June when the full coat of grass and weeds have attained a good growth, then not disturb it again till the middle or last of August, then sow from 16 to 24 quarts of rye to the acre, which is a plenty for old fields, and a bushel of red-top seed; then harrow with an iron harrow well both ways, and smooth off with the bush harrow. The March following sow any quantity of clover seed on top of a light snow. It is an object of importance on such land to start a coat of some kind of herbage which goes far towards restoring it to a state of fertility; the naked soil exposed to the drying winds and scorching rays of the sun will not improve much in value. On this plan I have raised 15 or more bushels of good rye to the acre on old fields. These old fields ought to rest more than three years between cropping, every seventh year is often enough to skin them unless manure can be applied. I cannot recommend the above system of farming, where a better one can be adopted. I was told yesterday by a man from Connecticut, that a farmer there bought a large tract of old, worn out fields of the worst description for five dollars an acre, and by sowing seed and plowing in herbage, he restored it to such a state of fertility that it produced fine crops and was worth fifty dollars an acre; this man was an eye-witness to what he related to me. It strikes me that such a course of enriching land must be more economical than buying manure at the customary price. While the farmer is plowing in the green crops, his land is rising in value probably to the amount of what he would derive from the crops on the same land manured in the same amount of time. I think old fields may be much improved without manure by a judicious system of management; plowing in any of the natural herbage of the soil is better than nothing.

All kinds of grass and weeds, as well as clover and buckwheat, derive a great part of their substance from the nutritive gases of the air, which plowed in at a proper time, will fertilize the soil. I believe that old fields in different locations of the State require different fertilizing materials. Gypsum and lime seem to be useless in this neighborhood, but in some other sections of the State the best results have followed their use. I have found mud, ashes and coal dust excellent applications to my light land for the production of corn and rye. I concur with R. B. H. in his opinion in regard to rotation and making a deep soil by gradually deeper plowings and exposing earth to the sun that never felt its influences before. These old fields have experienced the blighting curse of thoughtless man's cupidity, and restoring them to fertility again is all up-hill work, but *science can accomplish it*, and at the same time remunerate the skilful cultivator for his labor. Old fields so much despised will compare with a benevolent class of people who give away all they have, and for a compensation, are rewarded with a privilege and the honor of a seat in the poor-house. If they had been so obstinate that they would not have produced without manure at first, they, some of them, would have ranked with our best lands at the present time.

Every observing farmer who has seen much of the world has seen the advantages and disadvantages of the different kinds of soils; he has seen a great variety which are denominated old fields; some loamy and fine, some coarse and gravelly; some a loose quicksand to a great depth, which I should advise no man to cultivate where land is cheap; the expense of carting on clay and other materials to enrich and restore this leachy kind of land would be more than it would be worth when done. Let such land be planted with pine trees. On the other hand he has seen a great variety of the heavy, strong soils, some fine and productive, some coarse, stony and cold, some with too much clay; I have seen hundreds of acres of handsomely located land in the county of Essex covered with kill-lamb, forming a complete contrast with the leachy quicksand, and like self-righteousness, the less a man has of it the better he is off, unless he can reclaim it by trenching, or with the subsoil plow; manure has done but little good on it, where I have seen it applied. SILAS BROWN.

Wilmington, August, 1853.

For the New England Farmer.

BIRDS OF NEW ENGLAND.

THEIR PAST AND PRESENT HISTORY, ... No. 6.

BY S. P. FOWLER.

THE SWALLOW TRIBE.

We are now about to describe a class of birds, on many accounts, interesting to the cultivators of the soil. They are all insectiverous, never disturbing the crops of the farmer, or the fruit of the horticulturist. But perhaps we should make one exception to the general good character of the swallow tribe, when we come to speak of the Purple Martin. They are in general, social, intelligent, volatile, active birds, and being fond of the society of men, they invariably, with one exception leave the forests and solitary places, and seek his presence and protection, whether it be found near the wigwam of the Indian, the log cabin of the Squatter, the quarters of the slave, or the cultivated gardens and fields of the farmer or horticulturist.

There are eight species of the swallow tribe found in the United States, six of whom, and perhaps seven, are to be seen not unfrequently, on one farm or in one village in Massachusetts. These eight are the Purple Martin, Barn Swallow, Cliff Swallow, White Bellied Swallow, Bank Swallow, Chimney Swallow, Rough-Winged Swallow, and Violet Green Swallow.

Many opinions have been expressed, and notions entertained, in regard to the first appearance of the swallow tribe in this country. And we have been frequently asked the question, did these birds visit the several parts of our Union, as they do at present, before the settlement of the country by Europeans? And particularly was the Purple Martin unknown in New England previous to the Revolution. In answer to these questions, we would say, we have evidence that the Barn and Chimney Swallows were known from the first settlement of New England. Josselyn described these birds as early as 1638.

At this early period, the Barn Swallow built its nest under the shelving ledges and beetling cliffs, around our shores. At Nahant, in one of the lofty cliffs, there is a curious recess, called the Swallow's Cave. Great numbers of swallows inhabit this cavern in the summer season, and build their nests in the upper part.

The Chimney Swallow attached its nest to the inside of hollow buttonwoods, and other trees.—At the present day, in the fir countries at the North, where there are no human habitations to invite the swallow, they build their nests in the lime stone caves. The Purple Martin was known to inhabit the Carolinas more than one hundred and twenty years since. Mr. Catesby, in 1732, published his Natural History of Carolina, Florida, &c., where he describes ninety-four species of our birds, and enumerates two Hirundos—to wit. the Purple Martin and the Barn Swallow. It would seem, by an examination of the very interesting correspondence which took place in 1759, between John Bartram and Peter Collinson, upon the subject of our Natural History, that Mr. Bartram discovered in Pennsylvania four species of swallows, namely the Purple Martin, Barn Swallow, Bank Swallow and Chimney Swallow.

William Bartram, the fourth son of John Bartram, one of our early and most distinguished naturalists, the friend and patron of Alexander Wilson, published in 1782 what has been considered the most complete and correct list of American birds, prior to the work of Wilson, in which he has four species of swallows, viz.: The Barn Swallow, Purple Martin, Bank Swallow and Chimney Swallow. It will be seen that up to the appearance of the American Ornithology by Wilson, in 1808, no notice had been taken by our ornithologists of the White Bellied Swallow, it being probably confounded with the Bank Swallow, and by some European writers, with the English Martin. So far as our observation extends, we should think the White-Bellied Swallow in Massachusetts was much less common than the other species, which may be another reason why it was not earlier noticed by ornithologists.

We have now traced the history of the swallow tribe in this country to the time of Wilson, when there were five species of these birds. It was in the spring of 1815, when a new and very distinct species of swallow was just seen by Audubon, at Henderson, on the banks of the Ohio River. He drew up a description of it at the time, and named it the Republican Swallow. This was probably their first appearance in our Union. In 1817, they made their appearance at Whitehall, near Lake Champlain. In 1818, they began to build at Crawford's, at the White Mountains in New Hampshire. In 1827, we saw a large number of these swallows building their nest under the eaves of a barn, situated near the entrance of the Penobscot River, in Maine. In 1820, they made their appearance on the banks of Point Lake, in lat. 65° north, as noticed by Sir John Franklin. We first noticed them in Danvers, in the spring of 1839. The question has been frequently asked, where did the Cliff Swallows come from? In answer, we would say, they probably came from the westerly side of the Rocky Mountains.

Those seen by Sir John Franklin's party in June, 1825, along the whole course of the Slave and Mackenzie Rivers, came undoubtedly from the opposite side of the Rocky Mountains, and not from the Atlantic coasts, as it is found that those mountain ranges do not present a barrier to the

migratory feathered tribes. We may suppose that the Cliff Swallows enter the northern part of the union from this quarter. They have been for some years generally known in Nova Scotia and in Labrador—hence, by some persons, they have been called the Labrador Swallow.

The discovery of the seventh species of our swallows was made on the 20th of October, in the year 1819, by Mr. Audubon, as he was walking along the shores of a forest-margined lake, a few miles from Bayou Sara, in pursuit of some Ibises. But very little is known as yet of this bird by ornithologists. Mr. Audubon has named it the Rough-Winged Swallow, and has given us a colored plate of it in his Birds of America. They so much resemble the Bank Swallow, that a careless observer would not notice the distinction.—Mr. Audubon supposes, that its most habitual residence will be found to be in the valleys of the Columbia River. The eighth and last species of our swallows whose first appearance we shall notice, is a most beautiful little bird, judging from the figure given it by Mr. Audubon, for as yet we have not seen a specimen. It is called by him the Violet Green Swallow, and he speaks of its first discovery as follows :—

"Of this, the most beautiful swallow hitherto discovered within the limits of the United States, the following account has been transmitted to me, by my friend Mr. Nuttall.

"'We first met with this elegant species, within the table-land of the Rocky Mountains, and they were particularly abundant around our encampment on Harris Fork, a branch of the Colorado of the West.'" In this account of the first notice of this swallow we have no dates but we find in an exploring tour beyond the Rocky Mountains, performed by the Rev. Samuel Parker, in the year 1836, when in the Oregon Territory, he made this record in his journal. "Swallows made their appearance on the 12th of March ; and among them a new species, characterized by the plumage of their head and back, being a most beautiful changeable green, with other parts purple and white."

This no doubt was the little beautiful Violet Green Swallow, that arrested the attention of the missionary. How much earlier, if any, this new species of swallow was seen, we do not know.—It affords us pleasure to believe that this fine bird, whose home is at present beyond the Rocky Mountains, it having never as yet visited its eastern slope, will, at some period more or less remote, visit and take up its residence with us, who live on the Atlantic coast. This belief we entertain, from the well known and constant habit of the swallow tribe of leaving the accommodations and shelter afforded by nature in the wilderness, and seeking those better ones furnished by man. When Fort Franklin was erected on the shores of Great Bear Lake, in the autumn of 1825, Dr. Richardson says, they found many nests of swallows in the ruins of a house, that had been abandoned for more than ten years. In this case, these birds left the limestone caves, where they had been accustomed to breed, for the houses erected by the fur company. One other reason for believing that we shall yet see in Massachusetts the Violet Green Swallow, arises from the fact of their usually associating with the Cliff Swallows, and frequently occupying their deserted nests. Under these circumstances, they would be likely to accompany them to the Eastern States in their migrations.—We had intended to give a short description of the several species, composing the swallow tribe, together with some facts respecting their habits and particularly their migrations, as we have observed them for many years ; but we notice that our communication already exceeds your limits. With your own desire, and that of some of your readers, to know more of the history of our swallows, and with your permission, I will conclude what I have to communicate upon the character and habits of our Hirundos in my next article. S. P. P.

Danversport, Sept. 3, 1853.

ROCKINGHAM CATTLE SHOW AND FAIR.

For some twenty years, no Cattle Show has been held in Rockingham County, the old Agricultural Society having died about so long ago. The new society, organized within a year, appointed for its first exhibition, Thursday, the 15th of September, at Exeter; liberal preparations were made for the occasion, although there were many, we understand, who echoed the ill-omened cry, that it could not succeed.

The day came, and with it a storm from the South, such as is only introduced on occasions extraordinary. It seemed as if the windows of Heaven were opened anew, as in the days of the first navigator of whom the good book speaks. As one gentleman said, it was a storm of *some character*, and everybody understood that it meant very decidedly, that no Cattle Show should be held on that day. Forty cattle had already arrived, and a small supply of articles for the hall exhibition.

After mutually criticising each other's long faces, and wondering what good designs of Providence could lie concealed under so manifestly a wet blanket, the officers of the society decided to adjourn the show till Friday, hoping better times, though sorely distrustful.

Friday came, bringing a fair west wind, and clear sunlight over the green and beautiful lawns and trees of old Exeter, and it was manifest at once, that the power which guides the storm had not visited the enterprise in anger.

At about seven o'clock the noise of preparation commenced; Marshals on prancing steeds were seen hurrying through the streets, the lowing of cattle, the bleating of sheep, the rattle of wheels sent up a confused sound. At eight, the Brentwood band, in an open carriage drawn by four elegant horses, made its appearance, and the performances of the day began.

THE HEAMPTON-FALLS TEAM.

The grand entry of the Hampton-Falls delegation of members, with ladies, was a beautiful opening of the display. The band led by the marshal, went out to meet them a mile from the village, and escorted them into the town. Twenty yoke of

handsome oxen, with their horns tastefully dressed in blue and yellow streamers of ribbon, were attached to a car, mounted upon four wheels, and containing twenty-seven young ladies of Hampton-Falls. The car was roofed over with green corn leaves, for a screen from the sun, and carpeted and cushioned like a church. The outside was beautifully decorated with evergreens and bouquets of flowers. Indeed, no part of the wood even of the wheels could be seen, but it was an elegant combination of the brillant colors of Autumn flowers, with the fresh green of the forest trees and vines. Upon the sides, curiously formed in large letters, with vegetables of all kinds, was an inscription of the name of the town. Snugly seated among the fair occupants of the car, were seen the President of the Society, and Orator of the day, who had gone out to pay their early respects. On the square, teams from other towns were added to the procession, to the number, in all, of some seventy yoke of oxen, and at nine, by the music of the band, and with occasional songs by the ladies, amid shouts and cheers of the multitude already assembled, the procession moved on to the cattle grounds by the depot. Coaches were then furnished by the Society to the ladies, who were driven about the grounds to view the animals, and then escorted by the marshals to the exhibition hall. All honor to the ladies of Hampton-Falls, who have set an example to their sisters through the county, of incalculable value to this new Agricultural Society.

THE CATTLE PENS.

Time and space cannot now be spared to give details. About one hundred and twenty yoke of oxen were upon the field, and the pens contained, of horned cattle, about one hundred head. Gentlemen from our own State familiar with such scenes declared that so fine a display of working oxen they had rarely witnessed.

After organizing the various committees, the word was given to proceed to witness the

PLOWING MATCH.

But seven teams were entered for plowing. Although the knowing ones could well enough see, that no great affair could be made of this part of the show, yet nothing could exceed the interest manifested by the spectators, to most of whom the spectacle was new. The plowing was tolerably well done, but many such trials are wanting, to bring the farmers of old Rockingham up to their proper mark in this department.

THE PROCESSION AND ADDRESS.

At the close of the plowing match, a procession was formed, of the officers and members of the society, and invited guests, in Pine Street, and marched to the church. The Hampton Falls car with its twenty yoke of oxen bringing up the rear.

The wall pews of the house were filled with ladies, and the members of the society filled the rest, standing in the aisles in crowds, after the seats were all taken.

A voluntary was played by the band, a beautiful selection of scripture was read by the Rev. Mr. Mann, who in language appropriate and eloquent, also made a prayer, and a hymn was sung by the choir. The address, falling from our own lips, forbids our saying anything more about it than that it was attentively listened to.

THE EXHIBITION HALL.

The ancient and dusty old Town Hall was elegantly decorated, with evergreen and oak leaves, by the young ladies of Exeter, whose presence at the tables, added not a little to the attractions of the scene. Tables more than two hundred feet in length, in all, were arranged through the room, completely covered with fruit and flowers, and articles of needlework, and embodiments of a thousand curious fancies, while the benches were loaded with mammoth vegetables, and the walls adorned with pictures and embroidery. The show of fruit was a surprise to all. Baskets of peaches and pears were as fine as can any where be produced.

To give some idea of the number of persons present on the occasion, we have more reliable data, than mere real estimates, which ranged all the way, from five to ten thousand. We heard an old gentleman say, that he had lived in Exeter sixty years, and that never before had he seen so many people in the town at one time. The exhibition at the Hall was free to members of the Society, more than four hundred, in number, and to all members of their families, and all who claimed to be such, yet more than 2,000 persons paid an admission fee at the door! The Committee of managers at the Hall estimated that more than one-half entered without payment.

THE AWARD OF PREMIUMS.

At four o'clock, the music called together in front of the Squamscot House a crowd, such as is seldom anywhere witnessed.

The President, Mr. French, from one of the porticos, read the reports of the various committees while "a sea of upturned faces" anxiously awaited the decisions.

He also introduced to the meeting, several gentlemen from abroad, who made short addresses. Col. Newell, President of the Essex Society, a veteran in the cause of Agriculture, was among them. He complimented, in the highest terms, the exhibitions of cattle and of fruit, pronouncing them equal to any he had ever seen. Remarks were also made by Mr. Farnum, of Boston.

A spectacle was here presented, such as we have never witnessed at any show before. The President, with several invited guests, stood upon the balcony of the porch, while the multitude be-

low amounted to between 3,000 and 4,000 persons; and there they remained, listening to remarks from the strangers who addressed them, and the declaration of the awards, from 4 till half past 5 o'clock. We have rarely witnessed a more imposing and gratifying sight.

At about six o'clock, the crowd dispersed, and most of the people from abroad were supposed to have left town.

The evening, however, brought a crowd of people again to the Hall, and the committee, at a late hour, was obliged to insist upon closing the doors, and the first annual exhibition of the Rockingham Fair.

The whole affair has been highly creditable to our enterprising neighbors. There can no longer be any doubters as to the success of the experiment. We saw, of course, some errors which their sagacity will correct as they proceed. If so lusty and strong in their youth, how will they excel us in their manhood! Massachusetts must look out for her laurels!

For the New England Farmer.

A NEW HELP FOR THE FARMER.

ELEMENTS OF AGRICULTURAL CHEMISTRY AND GEOLOGY By JAMES F. W. JOHNSTON, M. A. F. R. S. S., &c., with a Preface and Index. By SIMON BROWN, Editor of the New England Farmer. New York: C. M. Saxton

We are glad to see a new edition of this most excellent work. It is a seasonable publication. Both the publisher and the editor have done a good thing for the rising generation of farmers, and we trust it will prove a good thing for themselves. The preface contains several judicious and sensible remarks, and, like all the writings of Mr. Brown, is marked by careful observation and practical good sense. The index appears to be prepared with much care, and adds materially to the value of the book. This is true of every good index; and, indeed, we consider no scientific work complete without an index. We wish authors and publishers would lay this remark to heart and reduce it to practice. Many scientific books are chiefly valuable as books of reference. But who can refer to a book without an index? The labor of turning over a score of pages, or reading a whole chapter to find a single remark or a fact which a writer wishes to use, is often more than the remark or fact is worth, and is any thing but agreeable.

There is one observation in the preface upon which we beg leave to offer a remark. The writer speaks of instructions upon the science of agriculture as *necessarily abstruse*. We take the liberty to dissent from this idea. It is indeed true that they are often abstruse, but we do not believe they are *necessarily* so. Chemistry had its origin in Alchemy. It was long in the hands of astrologers and pseudo-philosophers, who were searching for the elixir of life and the philosopher's stone. Its terms were borrowed from the Greek and Arabic, and it was clothed in the language of mysticism. The days of Astrology and Alchemy passed away with Paracelsus and his school, and Chemistry passed with them from the laboratories of the monks into the hands of the physicians, who did little to divest it of the mystery which enveloped it until the time of Lavoisier and his illustrious coadjutors, who gathered up its scatterd elements and reduced it to the true form of a science, and gave it a nomenclature founded upon a perfectly simple and most beautiful idea, viz: that every term describing a chemical substance, should, at the same time, designate its composition if a compound body, and its most important use if a simple body. For example, oxygen is derived from oxus, signifying acid, and gigno signifying to generate; by which we are taught that oxygen is the source or generator of all acids. Hydrogen comes from hudor, water and the same word gigno, indicating that hydrogen is the principal element in water. Of compound bodies we will take sulphurate of lime as an example. This term teaches that the body which it designates is composed of sulphuric acid and lime, mixed together in proportions just sufficient to neutralize each other. Muriate of soda indicates that the substance thus designated is composed of muriatic acid and soda, combined in the same proportions. So with all the terms used in Chemistry. Give the chemist the name of a substance, and he will tell you its composition; or give him the composition of a body, and he will give you its name. A most beautiful simplicity runs through the whole system.

The number of elementary bodies with which the chemist has to do, is limited to between fifty and sixty. The terms which he uses are compounded of the few elementary terms which describe these elementary bodies. For example, sulphuric acid, which shows that this acid is composed of sulphur and oxygen, the common parent of all acids; carbonic acid, consisting of carbon and oxygen. Nothing can be more simple than this whole system. The great difficulty in understanding chemical instruction consists in the want of a proper explanation of the terms, or rather in the want of a proper explanation of the principles upon which the terms are constructed. Where these principles are fully comprehended, and any man of common intelligence may comprehend them in an hour, the teachings of the chemist become at once intelligible and interesting. The abstruseness, the mystery that hangs over the subject like a dense fog, is dissipated by the clear sunlight of simple truth. It is true that many subjects that present themselves to the chemist are exceedingly complex, but patient and careful analysis can reduce them to their constituent elements, and the patience of the chemist is rewarded by the discovery of new and beautiful combinations of simple elements. Now there is nothing mysterious, nothing magical, nothing abstruse in all this. And we trust the time is not far distant when all the children—in our high schools at least—when all our young men and young women will be able to listen to scientific instruction upon so much of chemistry as relates to agriculture and the common arts of life, and to read books upon these subjects with no more difficulty in understanding them than they have in understanding household words.

The publication of this volume will contribute something towards this result. It is simple in its arrangement, being generally accurate in its statements, and more easily comprehended by the general reader than most books upon the same subject. Its analytical tables add much to its

value. Many of the tables in agricultural works are any thing but reliable. They have been copied from now and then, and anon have been stereotyped, to the manifest injury of science. No intelligent agriculturist who intends to keep up with the progress of knowledge will fail to place this book upon his table. Jos. Reynolds.

Concord, Sept., 1853.

THE CLIMBING CRICKET.

It is possible that we have done injustice to the bees, for whose general character and industrious habits we have great respect, in accusing them of being the primal cause of the decay of the peaches this season, an evil that is loudly complained of in this vicinity. That the bees are seen under very suspicious circumstances is a notorious fact—actually engaged luxuriating on the saccharine juice exuding from the crimson cheek of a peach, which, on examination, will show signs of rapid decay.

But some circumstances induce us to believe that the bee is not the first offender, but that it treads in the steps of a less worthy pioneer, which clears away all obstacles, perforates the external covering of the peach, and lays open to view its honeyed treasures.

This piratical insect we believe to be a species of cricket, long-bodied, and resembling a grasshopper, which may be seen about and among peach trees, and which can boast of a proboscis, armed with a piercer that is well calculated to do the mischief complained of. Crickets of all kinds, it is well known, are exceedingly fond of ripe peaches and pears, and this particular species, known as the *climbing cricket*, has powers of locomotion and aspiring tastes, that carries it among the branches of peach trees, and it has actually been seen and captured while revelling in the sweets extracted from the sunny cheek of a peach. Dr. Harris, in his "Insects of Massachusetts," gives the following description of this insect; and although he does not accuse him of eating the fruit, yet the fact of his boring into peach *trees* looks somewhat suspicious:—*Boston Journal.*

"Of three species which inhabits the United States, one only is found in Massachusetts. It is the *Œcanthus niveus*, or white climbing cricket. The male is ivory-white, with the upper side of the first joint of the antennæ, and the head between the eyes, of an ochre-yellow color; there is a minute black dot on the under sides of the first and second joints of the antennæ; and, in some individuals, the extremities of the feet, and the under sides of the hindmost thighs, are ochre-yellow. The body is about half an inch long, exclusive of the wing-covers. The female is usually rather longer, but the wing-covers are much narrower than those of the male, and there is a great diversity of coloring in this sex; the body being sometimes almost white, or pale greenish yellow, or dusky and blackish beneath. There are three dusky stripes on the head and thorax, and the legs, antennæ and piercer, are more or less dusky or blackish. The wing-covers and wings are yellowish white, sometimes with a tinge of green, and the wings are rather longer than the covers. Some of these insects have been sent to me by a gentleman who found them piercing and laying eggs in the branches of a peach-tree. Another correspondent, who is interested in the tobacco culture in Connecticut, informed me that they injured the plant by eating holes in the leaves."

For the New England Farmer.

SMITH'S ORLEANS PLUM.

Mr. Editor:—I was much gratified to see the cut, and read the remarks in your last number upon Smith's Orleans Plum; but I think that the extract from Downing does not do entire justice to this excellent plum. With me, for fruitfulness, profit and general interest, it is before all other plums. It is a wonderful bearer; bears good crops every year, and every other year *immense* crops. The tree is a very hardy and strong grower; troubled much less with "black wart" than other kinds, while the fruit with me entirely escapes the ravages of the curculio.

The fruit is quite large; skin of an elegant pink purple color, sometimes beautifully mottled; flesh of an orange color and agreeable taste; ripens gradually (with me) from the 10th to the last of August; and besides its good eating qualities, is, when picked a little before ripe, one of the best of preserving plums.

I have a tree in my garden which I purchased four years ago for 50 cents. I brought it home while in blossom, and set it out with *care*. The same season it produced fruit enough to pay for itself. The second year I sold twelve dollars worth, besides consuming many at home. The third year it bore well, but the present season it is a sight to behold, literally studded from stock to stem, so that it is almost impossible to touch the bark of a single limb with the end of your finger without coming in contact with the fruit. I venture to say, that upon most of the branches, no larger than the one represented in your last paper, the fruit averages twelve plums. One branch (although propped up,) broke off three feet from the end no larger than your thumb, from which I picked six quarts. This plum finds a ready sale in the market, selling from twelve and a half to seventeen cents per quart; and for easy cultivation and certain crops, I would recommend it above most other varieties.

N. A. Richardson.

Winchester, Sept. 12th, 1853.

P. S. I cultivate upwards of twenty kinds of plums, and in some future number I will give you my brief experience upon their merits, together with my manner of treatment, by which I get a good crop from most kinds every year.

N. A. R.

Remarks.—We shall be glad to receive the articles you propose to send.

Curious Device in Grafting.—The gardeners in Italy sell plants of jasmines, roses, honeysuckles, &c., all growing together from a stock of orange, myrtle, or promegranate, on which they say they are grafted. But this is a mere deception; the fact being, that the stock has its centre bored out, so as to be made hollow, through which the stems of jasmines and other flexible plants are easily made to pass, their roots intermingling with those of the stock. After growing for a time, the increase in the diameter of the stems, thus enclosed, forces them together, and they assume all the appearance of being united to one common stem.

ATKINS' AUTOMATON SELF-RAKING REAPER.

This machine was tested last fall, at Geneva, by the New York State Agricultural Society. We know nothing of it from personal experience, or from any examination of our own; but as we are desirous of keeping our readers informed of the progress of agricultural machinery, we lay before them an engraving of the Reaper, with such remarks upon it as we find at hand.

The editor of the *Albany Cultivator* says, "The self-raking machine is the invention of J. Atkins, of Chicago, a person of great ingenuity, as this contrivance fully testifies. The rake sweeps the bed where the fallen grain is deposited, presses it against a toothed plate, and both, holding firmly the bundle of grain thus collected, swing round the quarter of a circle off behind, when they open wide, and drop their contents in a neat bunch upon the ground. All these motions are accomplished by a very singular piece of mechanism; and they seem so nearly the immediate result of intelligence, that this machine was generally called by the name of the *Automaton Reaper*. Its invention is quite recent, and it had scarcely ever been used before; and hence, owing to an accident, it did not succeed the first day of its trial. It was, however, repaired, a temporary reel attached, and tried again on the 23rd with entire satisfaction, proving decidedly the best self-raker on the ground."

"New American Reaping Machine.—An American millwright, named Atkins, residing at Chicago, has recently invented a very remarkable piece of mechanism for the purpose of making the reaping machine, after cutting corn, deliver it in bundles ready for the binder. This was the great desideratum of the machine as first brought over to this country and shown in Hyde Park; nor have our implement makers, though they introduced some important improvements, succeeded in supplying the want thus indicated. Atkins', who, it appears, has been bedridden for ten years, designed an automaton arm, terminating in a rake, which, as the reaper moves along, regularly sweeps the cut corn in sheaves off the board on which it has been deposited, drops each parcel at the side by a rotary movement, and then, extending itself, returns to its work again. Whether the invention will stand the test of experiment in the field [in England] remains of course to be seen; but some of our most eminent agriculturists regard it with great interest, and appear to entertain very favorable expectations of its performance. The mechanical arrangements by which the automaton action is secured are remarkable both for their novelty and simplicity; and those who wish to see them should go to the Polytechnic Institution, Regent Street, where the new reaper is exhibited by Mr. J. S. Wright, of Chicago, Illinois. This machine, which is built on ——— model, also contains a clever modification of the cutter, which, it is said, entirely overcomes the tendency to clog in damp weather or on unfavorable ground."—*London Times, Feb. 12th*, 1853.

THE MACHINE AS A MOWER.

Mr. Atkins having planned his machine to reap and rake, has had doubts about its proving to be a good mower, and its construction is not such that in rough land it will operate equally well with one arranged only to mow. Till to-day I have been unable to try it on grass. Its success was such on the rough prairie, a few miles from the city, that Mr. James Townsend, of Pontiac, Michigan, who came here expressly to get a machine that would be sure to mow, and who witnessed the whole trial, bought and paid for one in advance $160, with no warranty as to its mowing qualities, saying *he*

would warrant it to do that, if I would warrant it as a reaper and raker, which I do on fair terms. On land pretty well prepared I believe it will mow very well, but am unwilling to warrant it in this respect. J. S. Wright.

"*Prairie Farmer*" *Warehouse.*
Chicago, June 21, 1853.

CURLED LEAF IN THE PEACH.

This disease, if so we may call it, has been, for four or five years past, assuming a more and more serious aspect, so that cultivators around us here in Western N. Y., begin to say that if it goes on as it threatens to do, and no remedy be discovered, we shall soon be compelled to abandon peach culture entirely. This would certainly be a great calamity, and it becomes every one who wishes to escape, to investigate carefully the nature of the disease, with a view to the discovery of the real cause. We have been looking anxiously for some new light on the subject among the journals of the day, and find the following in a recent number of the *Country Gentleman*.

"The curl in the leaf of the peach, which is generally supposed to have had a very unfavorable influence on the young crop, has given rise to much speculation as to its immediate cause, and cold weather, aphides, fungus, or mildew, and diseased sap, have been variously assigned as reasons. The cold weather theory will not always apply, as the disease sometimes appears after a continued succession of warm days, and the first opening of the young leaves shows the symptoms when they have never been exposed to a cool night. Again, the disease has often made its appearance when no aphides could at any time be detected with the most powerful achromatic glass; and newly opening leaves, exposed only a few hours to the fresh air, and on which no insect had ever set foot, have shown incipient, but unmistakable indications. The explanation by 'diseased sap,' is too general and indefinite — the fungus theory has more appearance of plausibility, but needs investigation and proof—and if correct, the fungus must be of *internal* growth, as the smooth and shining epidermis of the leaf is quite unbroken when the curl first appears in the cellular tissue.

But whatever may be the cause, the best remedy, so far as discovered, is vigorous growth. We have observed trees standing in the corner of a hog yard, where they were copiously supplied with manure, and as a consequence making a rapid growth, covered with a deep green foliage, with scarcely a vestige of the curl; and a row of peach trees which had been very freely shortened in the past winter, by cutting off branches in some cases an inch in diameter, have sent out strong new shoots, almost wholly free from the disease, and the trees are well loaded with young fruit."

Now, our opinion, formed several years ago, and strengthened by later experience, is that the curl is produced by changes of temperature too great for the delicate constitution of the peach. It is a tree that vegetates early, and being usually and from necessity planted in a light soil, its earliness is hastened, and the sap gets into active circulation, and young leaves are put forth long before the weather in our northern climate becomes steadily warm. We all know how common it is to have warm genial spring weather about the opening of the buds, when a sudden change comes, and we have probably a week or two of cold, rainy weather, with slight frosts probably, with cold dry winds. This at once arrests the development of the young shoots and leaves; the sap becomes stagnant and diseased; the bark is ruptured, and gum oozes out all over the younger parts; the leaves, whether in an embryo condition, rolled up in the bud, or half or wholly expanded, become swollen and diseased; then mildew attacks them, as it is always ready to reign upon sickly or feeble vegetation, and with this aphides and other insects; hence the opinions that mildew or insects were the cause of the disease.

1849, we think, was the first year this disease appeared in Western New York, in a serious form. That spring was cold and changeable. 1850 was similar, and the curl was worse than before, and so has continued since. One strong argument, at least so we regard it, in favor of this view, is the fact that if we have fine weather at the opening of the peach buds, we have very little curl, and that immediately after a change to cold the curl appears, and its severity is always in proportion to the intensity and continuance of the cold. Then again, as soon as the weather becomes warm and steady, the diseased leaves drop and new healthy leaves appear, and the disease is no more seen that season, not a symptom of it. Besides, some varieties are much less affected by it than others. We have a very hardy French variety, Peche de Vignes, that scarcely ever shows a curl in the worst seasons. We have a short row of six trees that have come almost hourly under our observation; the varieties are the Snow, Old Mixon Free, La Grande, Crawford's Early, Haines' Early, and Cooledge's Favorite. These were all planted at one time, of the same age, and in the same soil, and have been treated exactly alike, but the Crawford's Early and Cooledge's Favorite have suffered so much less than the others from the curl, that the trees are nearly twice as large, and both have now a good crop of fruit on, while the others have few or none. In going through an extensive orchard we might find many instances of this kind.

In addition to this, we find that trees in sheltered gardens suffer less than those exposed; and under glass, there is no such thing as curl. Are not all these facts sufficient to warrant the opinion we have expressed?

The article we have quoted says, "the disease sometimes occurs after a succession of warm days." We admit this, but it never has appeared to our knowledge after warm days without the intervention of cold nights. Has any one seen it appear in warm weather, say in June, July, or subsequent months?

It says, too, that "the first opening of the young leaves show the symptoms when they have never been exposed even to a cold night." We grant this, but as we have said, the sudden and violent check given to the tree affects every part, and the leaves even while rolled up in the bud. Neither can we agree with the opinion that "vigorous growth is the best remedy," for we have seen some of the most vigorous growing trees suffer most seriously. We regard *well ripened wood* as more important than vigorous growth, but we would combine these if we could. Were not the trees quoted as examples benefited by some kind of protection? To avoid in some degree the ef-

fects of the malady we can now only suggest the selection of *hardy* varieties and planting in situations somewhat protected from the cold west and north-west winds. Will peach growers who have had opportunity for extensive observation give us the benefit of their experience on this subject! If we have drawn erroneous conclusions from our own observations we shall be thankful to any one who will set us right.—*Genesee Farmer.*

DESTRUCTION OF WOOD.

An aged and venerable man remarked to us recently, that in a single neighborhood, and in the comparatively brief period of five years, not less than two hundred acres of forest land, all of it densely wooded, had been entirely denuded of its original growth! At this rate he is of opinion that in a few years we shall be compelled to pay roundly for every thing we obtain in the shape of wood, whether deflagrable or not. There is nothing more fatal to a country than the destruction of its wood, for with the growth perishes, in a very great measure, the essential principles of vegetable fertility. Mr. THAUN, a few years since, in a speech before the French House of Assembly relative to this subject, remarked that war, famine, and pestilence, are less terrible afflictions than the waste of wood. France, said he, will disappear as many flourishing countries already have, if she do not follow the example of Cyrus, who planted forests in Asia-Minor. It is only the abundance of forests and water which enables China to support her hundred millions of population. In that empire there are more trees planted than destroyed. Spain, so highly cultivated, and so densely crowded with inhabitants in the days of the Roman Empire, and in the times of the Moors, and since those of Charles the Fifth, owes her present dreary and desolate appearance to the waste of her woods. The same is the case with most of the countries of Asia, and the same will no doubt, at no distant day, be the case in this country, if not prevented by the adoption of a policy the reverse of that which we are now pursuing. It is indeed a painful and revolting contemplation to witness the wanton destruction of our noble forests, and the denuded hills and bleak mountains once clothed in robes of living verdure. In Scotland, many of the landed proprietors have for some years been engaged in restoring the forests which had been swept away in previous ages. The old DUKE of ATHOL planted on his estate in Perthshire, many hundred thousands of mountain birches. The patriotic efforts of Sir WALTER SCOTT, in restoring beauty to the bleak wastes and barren hill sides in the vicinity of Abbotsford, deserves all the commendation which literature can bestow. Such examples, are like apples of gold in pictures of silver; they have an abiding and perennial effect, operating as a centre of action from which none but the most desirable influences can flow forth. But in this country the abundance of timber appears to have engendered the idea of its worthlessness.—Men do not reflect that the rapidly increasing demand for it is annually and rapidly lessening the supply, and that the increase, by growth, is by no means so great as the consumption. We presume there is not a plantation of wood-land in New England, where there should have been thousands of acres. There is much land that can be devoted to no other *profitable* use, and the expense of planting is too insignificant to be urged as an objection by any one. We shall refer to this subject again.

SPEED THE PLOW.

BY CARLOS D. STEWART.

Speed the plow, and turn the furrow,
Scatter wide the yellow grain;
Soon it will, with golden harvests,
Bring an hundred fold again.
Who so happy as the plowman?
Up and singing with the sun—
Happy, trudging in the furrow,
Happy, when the day is done.

Speed the plow, and turn the furrow,
Sow the seed, and reap the land;
Envy not the king his sceptre,
Better fills the plowman's hand.
None so happy as the plowman,
None on earth so true a lord;
Reaper of the golden harvests,
Planter of the golden sward!

For the New England Farmer.

METEOROLOGICAL, &C.

MR. EDITOR:—For seven days in succession, ending the 14th of this month, the heat of the atmosphere has been greater than usual. For four days, by Farenheit's thermometer, it ranged from 84° to 89 and three days from 90 to 99. In some locations it rose in the shade as high as 100, 101, 102, 103, and even 104, between one o'clock and two P. M. On the 13th, there were showers and thunder heard in almost every direction from this place; but not a drop of rain fell here till five o'clock P. M., and not much then, yet the lightning played around and struck the earth in the East, West, North, and South, within half a mile of where I was, amid almost clear sky. On looking up to discover where those bright and dangerous electrical missiles came from, a point of a cumilus cloud was seen nearly to project directly over head, but not quite, whose base lay over Plymouth county, some fifteen miles distant. The lightning appeared to shoot beyond the cloud in the broad sunlight with such heavy and sudden peals of thunder which was truly startling—but not a drop of rain. Saturday, the 13th, was considered the *warmest day* ever known here. It is not half the year that the thermometer rises as high as 90° in August. The last time it rose to 90° in August, was in 1850, Aug. 5th, when it was at one o'clock just 90°. The next previous was Aug. 1848, the 10th, 12th, and 16th, when it stood at 1 P. M. at 90 each day. I perceive by the papers that Saturday was *not* the warmest day in Boston, owing, I suppose, to an Easterly wind from the ocean. Here, the wind in the forenoon

was mostly South West, but very light; but in the afternoon it was variable, blowing moderately from every point of the compass; generally, from the nearest thunder cloud. On the 17th, at 1 P. M., the thermometer stood at 64°, which is 35 degrees cooler than for four days previous.

The quantity of rain which has thus far fallen this month, amounts to 6 1-2 inches nearly, on a level; so that the land is plentifully wet, and grass land looks remarkably green and luxuriant; but the extreme heat after plenty of rain has caused the blight to fall upon potato vines, so that a rotten crop is anticipated. I find that my black potato vines show not the least sign of blight, but are perfectly green and in growing order. Corn looks remarkably well. The stalks have grown larger and higher than usual, and there is a prospect of a good crop.

Yours, &c., ISAAC STEARNS.

Mansfield, Aug. 20th, 1853.

REMARKS. — The article, a few weeks since, on the Palmer worm, signed "Isaac Stevens," and dated "Mansfield," should have been signed, "Isaac Stearns." We are sorry thus to rob our obliging correspondent of his well-merited honors.

For the New England Farmer.

WHAT KILLS THE WHEAT.

MR. BROWN:—I claim no place in the catalogue of correspondents of that most welcome weekly visitor, the *New England Farmer*, but will simply relate a fact, that, from my short opportunity, I have not been able to satisfy myself fully as to the cause.

Before our spring wheat was quite full in the milk, it began to die on one corner of the piece; and, as I was passing it, I concluded the cause was white worms eating the roots, as they not unfrequently do the herd grass. Some six days after our visiting it, I found it had died in far enough and along the edge to make several square rods, and another piece cornering near the first was sharing the same fate; for, for a distance of say ten rods along the edge, it was completely dead, extending in some two rods. On examining, I could find no worms as I expected; but soon discovered small bugs on the ground and on the wheat straw in great abundance; their largest size was that of a pinched kernel of wheat, or about half that of a full kernel. The small ones were black, but as they grow larger their wings turn a sort of drab color.

I am not able to point out their work, except that in the morning they were seen in abundance on the straw and heads of the grain, closely packed round a joint in the straw, or where the leaf spreads off from the straw, and on the head. When the straw first died, it was as white as ever I saw any unbleached straw until it turned dark by dew and rain—the grain shriveling much more than if it had been cut in the same unripe state. I let it stand till some half acre was spoilt, and then cut it. Every one here that I have talked with, appears an entire stranger both to the dying of the wheat and to the bugs I have described. In watching their movements the other day, I found them dead in bunches on the ground, so that I might easily have filled a table spoon in a place. I notice the same appearance of dying in some pieces in the neighborhood. Our winter wheat was very nice with the exception of being winter killed considerably.

Corn looks well so far. Potatoes also are doing well. Most of the swallows left early in this month, but some are not gone yet, owing to their young ones not having come to maturity—second brood, I suppose. D. FRY.

Sandwich, 8 Mo. 17, 1853.

WHAT CHEMISTRY MAY DO FOR AGRICULTURE.

We have spoken in high terms of Professor JOHNSTON'S forthcoming work on the "*Elements of Agricultural Chemistry*," and have laid before the reader some extracts from it. We now give the leading chapter, and believe that the general reader will find it so plain, interesting and instructive, as to desire to read the whole work.

"THE object of the practical farmer is to raise from a given extent of land the largest quantity of the most valuable produce at the least cost, in the shortest period of time, and with the least permanent injury to the soil. Chemistry, Geology, and Chemical Physiology throw light on every step he takes, or ought to take, in order to effect this main object.

SECTION I.—WHAT CHEMISTY, GEOLOGY, AND CHEMICAL PHYSIOLOGY MAY HOPE TO DO FOR AGRICULTURE.

But there are certain definite objects which, in their connection with agrigulture, these sciences hope to attain. Thus, without distinguishing the special province of each, they propose generally:—

1. To collect, to investigate, and, if possible, to explain all known facts in practical husbandry.—This is the first duty—a laborious, difficult, but important one. Many things which are received as facts in agriculture, prove to be more or less untrue when investigated and tested by experiment. Many ascertained facts appear inexplicable to the uninstructed—many even opposite and contradictory, which known principles clear up and reconcile—yet there are many more which only prolonged research can enable us to explain!

2. From observations and experiments made in the field or in the laboratory, to deduce principles which may be more or less applicable in all circumstances. Such principles will explain useful practices, and confirm their propriety. They will also account for contradictory results, and will point out the circumstances under which this or that practice may most prudently and economically be adopted.

Armed with the knowledge of such principles, the instructed farmer will go into his fields as the physician goes to the bedside of his patient,—prepared to understand symptoms and appearances he has never before seen, and to adapt his practice to circumstances which have never before fallen under his observation.

To deduce principles from collections of facts is attended with much difficulty in all departments of knowledge. In agriculture, it is at present an unusually difficult task. Observations and experiments in the field have hitherto been generally made with too little care, or recorded with too little accuracy, to justify the scientific man in con-

fidently adopting them as the basis of his reasonings. A new race, however, of more careful observers, and more accurate experimenters, is now springing up. By their aid, the advance of sound agricultural knowledge cannot fail to be greatly promoted.

3. To suggest improved, and, perhaps, previously unthought-of methods of fertilizing the soil.—A true explanation of twenty known facts or results, or useful practices, should suggest nearly as many more. Thus the explanation of old errors will not only guard the practical man from falling into new ones, but will suggest direct improvements he would not otherwise have thought of. So, also, the true explanation of one useful practice will point out other new practices, which may safely and with advantage be adopted.

4. To analyze soils, manures, and vegetable products.—This is a most laborious department of the duties which agriculture expects chemistry to undertake in her behalf.

a. Soils.—The kind and amount of benefit to be derived from the analyses of soils, are becoming every day more apparent. We cannot, indeed, from the results of an analysis, prescribe in every case the kind of treatment by which a soil may at once be rendered most productive. In many cases, however, certain wants of the soil are directly pointed out by analysis; in many others, modes of treatment are suggested, by which a greater fertility is likely to be produced,—and, as our knowledge of the subject extends, we may hope to obtain, in every case, some useful directions for the improvement or more profitable culture of the land.

b. Manures.—Of the manures we employ, too much cannot be known. An accurate knowledge of these will guard the practical man against an improvident waste of any of those natural manures which are produced upon his farm—thus lessening the necessity for foreign manures, by introducing a greater economy of those he already possesses. It will also protect him from the ignorance or knavery of the manure manufacturer. The establishment of such manufactories, conducted by skilful and honorable men, is one of the most important practical results to which the progress of scientific agriculture is likely to lead. And if it cannot prevent unscrupulous adulterators from engaging in this new traffic, chemistry can at least detect and expose their frauds.

c. Vegetable Products.—In regard, again, to the products of the soil, few things are now more necessary than a rigorous analysis of all their parts. If we know what a plant contains, we know what elementary bodies it takes from the soils, and, consequently, what the soil must contain, if the plant is to grow upon it in a healthy manner,—that is, we shall know, to a certain extent, how to manure it.

On the other hand, in applying vegetable substances to the feeding of stock, it is of equal importance to know what they severally contain, in order that a skilful selection may be made of such kinds of food as may best suit the purposes we intend them to serve.

5. To explain how plants grow and are nourished, and how animals are supported and most cheaply fed.—What food plants require, and at different periods of their growth, whence they obtain it, how they take it in, and in what forms of chemical combination? Also, what kind and quantity of food the animal requires, what purpose different kinds of food serve in the animal economy, and how a given quantity of any variety of food may be turned to the best account? What questions ought more to interest the practical farmer than these?

Then there are certain peculiarities of soil, both physical and chemical, which are best fitted to promote the growth of each of our most valuable crops. There are also certain ways of cultivating and manuring, and certain kinds of manure which are specially favorable to each, and these again vary with every important modification of climate. Thus chemical physiology has much both to learn and to teach in regard to the raising of crops.

So, different kinds and breeds of domestic animals thrive best upon different kinds of food, or require different proportions of each, or to have it prepared in different ways, or given at different times. Among animals of the same species, also, the growing, the full-grown, the fattening, and the milking animal, respectively require a peculiar adjustment of food in kind, quantity, or form. All such adjustments the researches of chemistry and physiology alone enable us accurately to make.

6. To test the opinions of theoretical men.—Erroneous opinions lead to grave errors in practice. Such incorrect opinions are not unfrequently entertained and promulgated even by eminent scientific men. They are in this case most dangerous and most difficult to overturn; so that against these unfounded theories the farmer requires protection, no less than against the quackery of manufactured manures. It is only on the basis of often repeated, skilfully conducted, and faithfully recorded experiments, made by instructed persons, that true theories can ever successfully be built up. *Hence the importance of experiments in practical agriculture.*

Such are the principal objects which chemistry, aided by geology and physiology, either promises or hopes to attain. In no district, however, will the benefits she is capable of conferring upon agriculture be fully realized, unless her aid be really sought for, her ability rightly estimated, and her interference earnestly requested. In other words, what we already know, as well as what we are every day learning, must be adequately diffused among the agricultural body, and in every district means must be adopted for promoting this diffusion. It is in vain for chemistry and the other sciences to discover or suggest, unless her discoveries and suggestions be fully made known to those whose benefit they are most likely to promote."

DESTROY THE APPLE WORM.

The present season will be a good time, to diminish the numbers of the apple worm.

As there will not be so many apples as usual, of course, there cannot be so many of these insects propagated, and an opportunity thus offers to thin off the numbers of the remainder, so that the apples which may grow another year, will not be so much infested with them.

There are several ways by which this may be done. One way, is to let hogs or sheep run into the orchard, which will be likely to eat the apples which these worms cause to fall and thus destroy them. Another mode is to gather up the

windfalls, and either throw them over to the hogs, or cook them, and mix them with the swill that you feed to the hogs, and thus be sure to destroy them.

There is another way by which many of them can be entrapped and killed. These worms sometimes leave the apple while it hangs on the tree, and crawl down the trunk in search of some convenient place, to spin their cocoon, in which to undergo their transformation, into a miller or moth state.

If you place a woolen rag in the crotch of the tree, the worms, in their journey down, will be very likely to come in contact with it, and finding it warm and comfortable, will be likely to crawl under it, and spin their cocoons there.

They can then be discovered by lifting up the cloth, and thus easily destroyed. It is worth some little pains to diminish their numbers at this time.—*Maine Farmer.*

MOUNTAIN BORER.

The Hartford *Times* speaks as follows of an invention by a Mr. Talbot of that city, called the "Mountain Borer :"

"Worked into its own machinery, is an engine of 60 horse power. This drives four piston rods, horizontally, and these turn four half-circle plates, of stout proportions, to which circular revolving blades are set. These four plates are turned with exactness about one-fourth of a circle and back, and are set upon a revolving plate, of about ten feet in diameter, and as thus set, cut a circle of 17 feet in diameter. The machine weighs about 80 tons, and is of stout proportions throughout. The motion obtained by this invention is novel—entirely new. By it the revolving knives, each running its quarter circle, cut completely from the centre to the circumference, and they do their work steadily and surely, cutting a round hole as they are turned by the large or centre plate. But we cannot describe the great machine so as to give a good idea of it, and will not attempt it. We say, however, that it stands among the greatest inventions of the age, and will bore its way to an enviable notoriety. It is to be taken to a rock at or near Harlem, N. P., for an experimental trial. All the rare things in the Crystal Palace combined, are not equal to this machine, in the way of interest to the lover of true mechanical genius and bold conception."

DEPTH OF THE ROOTS OF TREES.

In the spring of 1850, I removed an apple tree which was growing on a gravelly ridge, to a place prepared for it a short distance from whence it was taken. The tree was six inches in diameter, had been planted, I should judge about twenty years, and had been top-grafted a few days previous to its removal. The tree and most of the grafts set in it are growing thriftily.

In the place where the tree stood, I sunk a well, and in the digging traced the roots of the apple tree downwards to a depth of over twelve feet below the surface of the ground. My attention was called by the appearance of the roots, as the workmen were going on with their work, and a measurement was made. How much deeper the roots could have been traced, I cannot tell, but I was well satisfied that they did extend some little below the measurement. From the great loss of roots, by their spreading so deep and wide, I had little expectation of saving my tree, and still less the grafts so recently set, but was most agreeably disappointed in both.—*Rural New-Yorker.*

For the New England Farmer.

APPLICATION OF TAN TO POTATOES.

Mr. Brown:—Early this month my attention was called to a field of potatoes, several acres, on the farm of Gen. Sutton, (which I believe yon have visited this season,) presenting features so striking as to be worthy of notice. The entire field was plowed the last Autumn, with the Michigan sod and subsoil plow, to the depth of about nine inches, and manured with compost in like manner throughout. In the Spring it was furrowed deep, and the potatoes were dropped in continuous rows. On one side of the field the potatoes were covered with tan, before the dirt was put over them, taken directly from the tannery; on the other side, no tan was applied. In all other respects they were treated alike. When I first saw them, the vines throughout appeared healthy and vigorous, the only difference was, where the tan was applied, they were higher and larger than the others. This was explained upon the supposition that during the dry weather of June and July, the tan had checked the evaporation from the earth below, and the sod that had been covered by the subsoil, and thereby aided the growth of the potato. At this time, no appearance of blight, or discoloration of the vines, was to be seen on any part of the field. To day, when I looked at them, on that part of the field, where no tan was applied, the vines were completely fallen and discolored, presenting a gloomy aspect. Where the tan was applied, the vines are still green and luxuriant—only here and there a sprout otherwise—probably where the tan did not completely cover. What is to be the result of the application of the tan upon the tubers to be formed, can only be determined when the crop is matured. Perhaps they will all be tainted with *the rot*, as most other fields in this vicinity now give indications of being. I state the facts, that the curious in these matters may look for themselves, while the crop is in the field. It is situated on the southerly side of Aborn Street, in Salem, near the Gen.'s large barn. Probably, when other cares will permit, the proprietor will have more time to look after the humbler, but not less useful and honorable pursuits of his well-cultivated fields.

The public are under great obligations to gentlemen like Mr. Sutton, for many well conducted experiments in cultivation. In this way, men of wealth and public spirit can do much for the instruction of the farmer, even though, they do not put their own hands to the plow, or shoulder to the wheel. Mr. S.'s experiment in 1851, of applying various kinds of manure to the growing of potatoes, published I think in the *Journal of Agriculture* at that time, was highly creditable and useful. If my recollection is right, those grown on *rotted tan alone*, yielded most and of the best quality. If it be true that tan can be used for *the growing* or *the protecting* of potatoes, this is a fact worthy of notice. In the village of South Danvers alone, it is ascertained that about 12,000 cords of hemlock bark are annually used in the tanneries.

I presume about as much more is used in the adjoining tanneries of Salem. This spent bark, is now dried and housed, and used in the Steam Mills, for the grinding of bark. For this purpose, when dry, it is valued at about *one dollar a cord*. Very truly yours, P.

Danvers, Aug. 20th, 1853.

NOTE.—Almost every farmer I meet, speaks of the decay of his potatoes. The fond hopes indulged the last year, that the disorder had passed its climax, I fear, rest on a slippery foundation. Let us have the facts; from these alone, can the true cause be learned.

REMARKS.—We should be glad to say something in relation to the use of tan, the potato crop, &c., but the pressure of other duties, at present, prevents. From personal observation, we can speak of the beautifully cultivated fields of Gen. SUTTON, and say that a visit to his workshop, and the room for the storage of his Farm Implements, the sheds for his carts, wagons, &c., will richly repay any farmer for a travel of twenty miles. This part of his farm husbandry excels anything of the kind we have ever seen, in any State. We received several lessons there which have already had an influence on our own premises.

For the New England Farmer.

LIME FROM GAS WORKS AND MUCK.

MR. BROWN:—I see inquiries from your correspondents concerning the value of gas lime, and its efficiency in decomposing peat muck, &c. I send you herewith an analysis of the gas lime from it. It was made for E. B. Brown, Esq., of Stonington, Ct., by Dr. Chilton, of New York.

Caustic lime	43.34
Carbonate of lime	30.15
Water	16.00
Phosphate of lime	1.00
Sulphate of lime	1.12
Hydro Sulphate of lime	2.14
Sulphate and Hydro Sulphate of lime	3.94
Trace of iron and oily matter	2.11
Loss	.20
	100.00

It will be seen by this analysis that 43 per cent. of this lime is in a caustic state, and must act as powerfully upon vegetable fibre as any fresh burnt lime. The thirty per cent. of carbonate of lime is as good as any other slacked lime. It is what all our granite soils, that have a fair proportion of organic matter in them, need. The one per cent. of phosphate of lime and the 1.12 per cent. of sulphate, or plaster of paris, are well known to be valuable on almost all soils. The next three constituents are probably of some value. The iron enters in small quantities into most vegetable products. The precise nature of this oily matter is not revealed by the analysis. But if the coal contains ammonia, it is probably to be looked for in this constituent of the gas lime.

Twenty-five cents a barrel is much higher than the market price of the article in New York. There it is put on board the vessel at one and a half cents per bushel. It was sold last year at two cents a bushel. The accumulation of the article upon the hands of the Gas Company has probably caused this fall in the price. Mr. Brown procured a thousand bushels for decomposing muck, and it succeeds so well that he is enlarging his operations. For this purpose, or for spreading upon the surface of reclaimed swamps, it is perhaps the cheapest source of lime at the New York price. At 25 cents a barrel, it is a question if it is not dearer than oyster shell lime, fresh burnt, which can be procured in the neighborhood of most of our cities at from five to seven cents per bushel. Your correspondents can safely go ahead with the gas lime and muck.

As muck and marsh mud are coming into fashion, your readers will be interested in the following analysis:—

Analysis of Peat Muck on E. B. Brown's farm, by Prof. Norton.

Lime	45
Magnesia	17
Alkaline salts	31
Alumina, iron and phosphoric acid	2.06
Soluble Silica	13
Insoluble matter, sand, &c.	58.71
Organic matter	37.48
Loss	.69
	100.00

Analysis of Marsh Mud made for Col. E. W. Seabrook, of Edisto Island, S. Carolina, by Prof. C. U. Shepard.

Water	19.66
Organic matter	3.50
Silica	67.50
Carbonate of iron	4.75
Alumina	1.50
Carbonate of lime and magnesia	1.64
Phosphate of lime and do	trace.
Chloride of Sodium	0.45
Chloride of potassium	0.01
Chloride of magnesium	0.05
Sulphate of lime and magnesia	0.05
Loss	.99
	100.00

W. CLIFT.

Stonington, Ct., Aug. 14, 1853.

TURNIPS.

Turnips may remain in the field till late. They are far less injured by frost than many are inclined to believe. It is very often the case that turnips are frozen into the ground, and on the frosts breaking up again in the course of a few days, are removed as hard and crisp as before. The action of the soil neutralizes its effects, and sometimes a succession of several weeks of warm weather, after a freezing night, adds as much to the weight and value of the crop as they gained in twice the time before the advent of severe cold. A low temperature is favorable rather than adverse to the development of all the species of the turnip tribe. Cabbages grow rapidly in cold weather; hence the practice so prevalent at present of allowing them to remain out till snow falls. In packing turnips of all kinds, care should be taken to secure them effectually against the light and air. The more perfectly this is accomplished, the greater will be the certainty of their keeping well, and the more wholesome and nutritive will they be found, both for stock and for table use.

VEGETABLE REPRODUCTION.

The reproduction of vegetables is very analagous to that of the animal kingdom. The organs of production are the stamen and pistil. These are situated within the colored leaves, which, together with these interior and essential parts, form the flower. Sometimes both stamen and pistil are found in the same flower, which is then called a perfect flower. Sometimes the flower has only a stamen, or only a pistil, and then it is called an imperfect flower. It is necessary that the stamen and pistil should communicate in order to the reproduction of the plant. In a perfect flower this communication is effected by the contact of the stamen and pistil. When, however, the flowers are separate, and communication cannot be had by contact, the fecundation is effected by the agency of the wind, which carries the pollen or dust of the stamen and deposits it on the pistil of the other flower. Sometimes the male and female flower are not on the same plant, but a different one, as is the case with the strawberry, the hemp and hop. Sometimes they are on the same plant, but on a separate stem, as the melon. In plants of this kind, having imperfect flowers, the fecundation is supposed to be incomplete or to fail, and it is sometimes assisted by the hand of the gardener. In this way the varieties of certain species of plants are chiefly produced.

These hybrid plants can be produced only when the parent species are nearly allied to each other. If the hybrid bear flowers which become fertilized by its own pollen, it may produce seeds from which similar may be raised. This may be repeated for two or three generations, by agency of its own reproductive organs, or by intermixture with those of the parent stock or species. In this last case, however, it will be a new variety. If the several parent stocks from which the variety proceeded are of distant species, the new hybrid race becomes soon extinct, unless it be continued by intermixture with one of the parent stock, in which case it becomes merged in that stock.

Those flowers which contain the pistil are called fertile flowers, because they are capable of reproduction if fecundated by the stamen bearing flower. The sterile flower may be easily distinguished from the fertile, by the knob or bulb at the top of the stamen, which becomes covered with a fine yellow dust, called pollen, which is the fructifying element of the stamen, and which must, in order to the reproduction of the plant, be brought into contact with the stigma or expanded head of the pistil in the fertile flower.

This knowledge is valuable to gardeners, as by it they are enabled to select the suitable sets for strawberries and other fruits, to assist in the production of melons by placing the pollen on the stigma, and, by selection of pollen from different species, to produce new varieties.

For the New England Farmer.

WHEAT CULTURE.

Gentlemen:—I am not a little delighted to see an awakening interest in wheat growing among New England farmers. Letters have been addressed to me from different States, indicating that your own Pilgrim soil is still capable of producing bread for its people.

The foreign conclusion that your soil was exhausted of its *lime*, has now become a bugbear. Your celebrated Dr. Jackson tells you that every spoonful of manure has its quota of lime, and hence all *the lime that is necessary to vegetable growth is found in the barn-yard.*

But time compels me to be brief. In a few words I would say to the farmer—particularly those who are remote—begin the business of raising the almost sure crop of winter wheat. Your potatoes *rot*, your spring grains *rust*, and the weevil troubles you. Is it not so? Now the month of September is upon you; sow your wheat early. If you have no seed at hand, send to Boston for it.* Wherever you can get corn, *there* you can get wheat. It is as sure a crop as winter rye, and much more so on strong sward lands. Six years' experience is my only proof; and as this is the season between "hay and grass," and little else for the farmer to do than plow his land, he will find his reward in this new field of labor, and his granary replenished in an important item of domestic comfort.

Yours truly, Henry Poor.

New York, Aug. 22, 1853.

* Seed may be found at Ruggles, Nourse & Mason's, and other seed stores.

SYMPATHIES OF MIND WITH THE BODY.

All are aware of the wonderful influence exerted by the condition of the body upon the faculties and affections of the soul. The following, from the Essay on Indigestion, by Dr. James Johnson, contains some very remarkable facts:—

"Many a happy and lucky thought has sprung from an empty stomach! Many an important undertaking has been ruined by a bit of undigested pickle—many a well-laid scheme has failed in execution from a drop of green bile—many a terrible and merciless edict has gone forth in consequence of an irritated gastric nerve. The character of men's minds has often suffered from temporary derangements of the body; and thus, health may make the same man a hero in the field, whom dyspepsia may render imbecile in the cabinet."

Dr. J. illustrates his subject in his usual felicitous manner. The following are some of his remarks:—

"I lately saw a gentleman of brilliant talents and prolific genius, who could sit down and write extemporaneously whole pages of superior poetical effusions, with scarcely an effort of the mind, and who would yet, from sudden derangement of the digestive organs, be so completely and quickly prostrated in intellectual power, as not to be able to write three lines on the most common subject. On a late occasion, when he had merely to communicate an official transaction that required not more than half a dozen lines in the plainest language, he could not put pen to paper, though the attempt was made fifty times in the course of two days. At length he was forced to throw himself

into a post-chaise, and perform a long journey to deliver orally what might have been done in one minute by the pen. In half an hour after this ride was performed, he sat down and wrote an ode descriptive of his own state of nervous irritability, which would not have done discredit to the pen of a Byron.

"The author of this essay has himself been so enervated by a fit of what is called indigestion, as to be utterly incapable of breaking the seal of a letter for twenty-four hours—though, to all appearance, in good health at the time."

For the New England Farmer.

MOWING MACHINES.

Mr. Editor:—I have been exceedingly gratified with some accounts of a trial of mowing machines, published in your valuable paper, and also the strong interest you seem to take in this matter. As this is an important subject for farmers, I will, with your permission, offer a few thoughts on this interesting topic. The late Judge Woodbury, at one of our agricultural festivals, pronounced the hay crop, next to the wheat crop, as the most important crop of the country, and he estimated its yearly value in the New England States at *thirty-eight millions of dollars*. If this opinion has any foundation in fact, we see the magnitude of the interests involved in this production. What then, let me ask, has been done to improve the methods of harvesting this immense department of cultivation? While our agricultural warehouses have been flooded with improved plows and other implements for the various kinds of farm work, I am not aware that any new mode of cutting grass has been introduced in this part of the country for the last fifty or hundred years. Other sections of the union have shared largely of the spirit of the age, but we have remained stationary. Now in my judgment these things ought not so to be. It is true the horse rake has done something to help the farmer in haying, but it has not done all that can be done, or enough. The severity of labor at this season is yet proverbial. The farmer is still compelled to tug and toil and bear the heat and burden of the day, and he needs relief. While, then, we are thankful for the horse rake, we want something more. The horse rake has lived long enough in single blessedness; we wish to see it married to the mowing machine, and when this union is effected there will be no want of issue. These machines have been in use in the middle and western States for some years; and while it is admitted that they are not all of equal merit, there is one upon which the testimony is uniform and decisive. I allude to Ketchum's Mowing Machine. This has several times been put in competition with others, and has always borne off the palm. All who have seen it work concur in one report, and that is praise. In a late number of the *New England Farmer* there is a letter from David Lyman, of Middleton, Ct., and this is his statement. "I have tried it in thin June grass, in clover and herds grass, both standing and lodged, and in corn meadow grass, and it does the work fully equal to the best mowers. All who have seen it express this opinion. It works better on uneven ground than any one would suppose. It is strong and durable, and will, I think, be used successfully on nine-tenths of the mowing fields of New England, if properly prepared." He also states, "I can in three hours cut over as much surface as five men usually mow in the forenoon." In a late trial in the State of Ohio, such was its excellence and efficiency that, in the opinion of one present, it could have been sold at auction for one hundred and fifty dollars. Five hundred were sold last year, and one thousand does not meet the demand the present year.

There are some reasons which seem to call loudly for the mowing machine. One is the high price of labor in haying. During the past season good men could not be obtained in many places for less than nine shillings a day and board, and they were even scarce at that. Another consideration is that we cannot hit upon the proper time of cutting the grass by the old method of mowing; some will be cut too soon, and other parts too late; whereas, by the use of a machine, we can at once facilitate and accelerate the operations of haying so as to bring every thing within its proper time and place.

I am aware that some may object against the use of this implement because of the expense; but if a single individual should think that he could not afford to buy one, two or three neighbors might club together and purchase one for their common benefit, and would save enough by being relieved from the necessity of hiring extra hands, to pay for the machine in one or two years. It may, perhaps, be thought that the circumstance of working the machine with two horses may occasion difficulty or inconvenience, as most farmers have but one. But in reply to this it is enough to say that the Hon. Samuel D. Hubbard, of the city of Middleton, uses his with a yoke of oxen; and I know of no reason why oxen will not do as well as horses, except that they do not work so fast.

To prepare the way for the introduction of these machines, I would suggest for your consideration the expediency of having one or more of them submitted to the test of an experiment, similar to the late trial in Ohio. If it were not too late to find grass to work upon, the gathering at a cattle show would be just the time for an exhibition, and there cannot be a doubt that it would attract vastly more attention than the ploughing match. Nothing could have a happier tendency to dispel doubt and banish prejudice than to see one in actual operation. What our farmers want is ocular demonstration. They want to see with their own eyes and handle with their own hands, and then they will be convinced. In this connection I subjoin Mr. Ketchum's account of his machine, as published in the *Boston Cultivator* Feb. 10, 1849.

KETCHUM'S PATENT MOWING MACHINE.

The subscriber having, during the past summer, submitted his Mowing Machine to the most severe tests of trial, in every variety of grass and on smooth and uneven surfaces, and having brought it to a degree of perfection, is now ready to offer it to the public with the utmost confidence in its complete success, with the assurance that the following statements may be relied on as facts:

1st. The machine is capable of mowing from 10 to 15 acres of grass a day, with one span of horses and one person to drive. In addition to this, it leaves the grass evenly spread upon the ground.

2d. It cuts the grass more closely and evenly than is commonly done with a scythe by the best mowers.

3d. It is built mostly of *iron;* is strong and durable; is not liable to break or get out of repair with fair usage.

4th. It is less work to keep the cutting teeth sharp and in order than it is a scythe.

5th. It is easier work for a man and a team to propel and manage the machine than it is a harrow.

6th. The construction of the machine is mechanism reduced to its simplest elements.

7th. All the difficulties in mowing by machinery are overcome. It may be done, and this machine will do it. The price of the machine is $100. Any application for the right to manufacture and vend them in specified districts, or for the machine, may be addressed to the subscriber, or to S. W. Hawes, of this city, and will meet with prompt attention. William F. Ketchum.

Buffalo, Sept., 1848.

In conclusion, let me appeal to the great house of Ruggles, Nourse, Mason & Co., and like establishments of Boston, and ask if there is not any one among them of public spirit enough, to say nothing of private interest, who will engage in this cause. It needs not the gift of prophecy to say that he who shall embark in this enterprise will not lose his reward. Like the fortunate publishers of Uncle Tom's Cabin, he may anticipate a rich harvest of gain, and he will not be disappointed. A.

Acton, Aug. 31, 1853.

Remarks.—Our correspondent has not run ahead of our own desires in regard to the Mowing Machine. The season has passed for the introduction of one this year; but next season we hope to see them introduced, and shall give the matter personal attention. We would inform him that Messrs. Ruggles, Nourse, Mason & Co. have already sold Ketchum's and other Mowing Machines, and will supply any demand made upon them in future.

IMPROVEMENTS AT THE CAPITOL.

The labors of Major B. B. French, the new commissioner of Public Buildings, are well employed in the improvements he is making at the Capitol. The whole work now in progress there (except the extension of the two houses of Congress) is under the superintendence of Major French, and he is acquitting himself admirably.

On the exterior the new group of statuary by Greenough, representing the "Triumph of Civilization," is being placed on the north base of the great staircase, on the east front. The group is composed of several pieces of art, embracing the civilized man, the savage, a woman with her son in her arms, and a trained dog, all to be placed upon a pedestal, consisting of an irregular mass of rock, and adjusted in accordance with the original idea of the illustrious American artist.

In the interior the building has been renovated beautifully from the base to the summit. The two rotundos of the Senate and House have been elegantly painted. The frescoing of the Hall of Representatives is a great improvement; and when the curtains and carpets are arranged, the room will present a splendid appearance.

The large paintings have been much improved by the cleaning of the frames and the application of varnish to the canvass. Should the great painting of the Discovery of the Mississippi, by De Soto, arrive in time to complete the series of pictures, the chief rotundo will be beautiful and grand indeed. It is stated that this painting is already on its way. We ardently hope it may arrive and be put up before the commencement of the next session of Congress.

But the great feature of these improvements is the new hall of the Congressional Library. This hall is now composed entirely of iron, having two galleries and three rows of alcoves surrounding the room. The painting, gilding, carpeting and furnishing are truly elegant; the whole constituting a public library hall without its equal in the world. The room will be opened to visitors during the day; and we can assure all our readers who may be present on that occasion that they cannot fail to be much pleased.—*Washington Union.*

STOCK—NATIVE AND IMPROVED.

The wild cattle of Great Britain, and from which was derived its present race of improved stocks, and a pure specimen of which is said to be still preserved in the Park at Chillingham Castle, the seat of the present Earl of Tankerville, are thus described by Mr. Bailey, the steward of the Earl of T———.

"The color of these animals," says Mr. B, "is invariably white; the whole of the inside of the ear, and about one third of the outside, from the tip downwards, red; the horns are white, with black tips, and bent upwards. Some of the bulls have a thin upright mane, about an inch and a half or two inches long. The weight of the oxen is, from twenty-five to forty-five stone, of fourteen pounds. The beef is finely marbled, and of excellent flavor. When the cows calve, they hide their calves for a week or ten days in some sequestered situation, and go and suckle them two or three times a day. If any person comes near the calves, they clap their heads close to the ground, and lie close like a hare in a form, to hide themselves. This is a proof of their native wildness, and is corroborated by the following circumstance which happened to the writer of the narration, who found a hidden calf two days old, very lean and very weak; on stroking its head it got up, pawed two or three times like an old bull, retired a few steps, and bolted at his legs with all his force; it then began to paw again, bellowed, stepped back, and bolted as before; but knowing its intention, and stepping aside, it missed him, fell, and was so weak that it could not rise, though it made several efforts; but it had done enough; the whole herd was alarmed, and coming to its rescue, obliged him to retire; for the dams will allow no person to touch their calves, without attacking him with the utmost ferocity."

As to the value of the several kinds of cattle imported into this country from Great Britain, the Durhams, Devons, Herefords, Ayrshires and Alderneys are the most popular and best known. Of these, many prefer the Devon. It is an excellent kind, especially for working oxen and beef. They are thus described by ARTHUR YOUNG, formerly Secretary of the Board of Agriculture, and one of the most careful observers and best writers of the day.

"The thorough bred Devon is of a bright red; neck and head small, eyes bright and prominent, and round it a ring of bright yellow, the nose round the nostril having the same color; the horn clear and transparent, upright, tapering, and gently curved, but not tipped with black."

There can be no question that a very important improvement may be made in our native stock by judicious crossings with the more valuable imported stock; yet there appears not to be the necessity for this crossing of different breeds and bloods in order to elevate the character of the former, which many regard as indispensable. The great error in our system is the habitual selection of our finest animals for the market, instead of retaining them as breeders. A fine cow or a well proportioned bull is almost sure to be disposed of, while the poor and diminutive animals are kept for propogation. No farmer thinks it judicious to sell his best seed corn, and plant the shrivelled and imperfectly formed kernels. His seed wheat, potatoes, oats, beans, peas, and rye for stocking his lands, are selected from the best. Why, in stocking his farm with animals, should he not pursue the same good policy? The practice of "breeding in and in," as it is termed, is also another cause of depreciation. In the human family this law, so repugnant to every feeling of delicacy, is productive of precisely the same result as in the case of domestic animals. Intermarrying within certain degrees of consanguinity is sure to stultify the progeny, and render them imbecile, idiotic, and frequently insane. Its effects are highly adverse to all healthy developments, physical, moral and intellectual, of the true man. The royal line of Spain is reduced to a condition of the most pitiable imbecility and inefficiency, by the aristocratical and impolitic practice of intermarriage, adopted with a view of preserving from corruption the purity of the royal blood. At one period, not a single individual, it is asserted, could be found possessed of sufficient ability to direct the most ordinary affairs, much less to sway the sceptre of a realm over whose interests he was expected to watch with the vigilant anxiety of a parent's care.

When a well developed animal is seen in our flocks or herds, we should refuse all offers for it, and dispose of our diminutive and less valuable animals, even though the price be small. It is a bad policy in this matter to disregard future, though remote, for present gain. If we wish for good animals—such as will amply repay us for the expense and trouble of keeping them, and be an ornament both to our farmers and to our common country, we must revolutionize the entire system of breeding, as it now exists and is practised, and adopt in its place one which will obviate the unpleasant and disgusting results it is so admirably calculated to produce. With our own excellent breed of black cattle, we can accomplish much even without foreign aid; but with it we can do much better by judicious crossings.

EFFECT OF RAILROADS.

At a meeting of the FARMER'S INSTITUTE, New York, where the subject under discussion was the benefit of railroads to the farmer, Mr. SOLON ROBINSON, Editor of the *New York Agricultor*, said:—

"I have tried to convince farmers of the immense value of this rapid communication to them—that it was their salvation. The first effect has been to bring beef cattle one thousand miles to our market in a week. Game and poultry come the same distance in forty-eight hours. The oxen come as the market requires, notice of which goes by telegraph for the number required. The cost per ox is about ten or twelve dollars, whereas, on foot, as of old, the oxen travel with loss of flesh and heavy expense on the road, from sixty to ninety days before they reach New York. Strange that many farmers do not understand this. Sometimes our city would starve without this railroad supply. Last spring all the chief articles within striking distance were exhausted; now we rarely have on hand one hundred of oxen at a time. Some cattle are shipped from Chicago to Buffalo—some from Indiana go by cars to Cleaveland on Lake Erie, thence by cars to Dunkirk and to Buffalo, thence the greater part come by the Hudson river. Last week there came in a drove of cattle raised by the Cherokee Indians, marked with their hieroglyphics. An Illinois drover had bought them, fed them a while, and then brought them here by railroad, &c. Look at the map and see what a walk that drove must have had to reach New York without the steam and railroad! Oxen can travel only about ten on twelve miles a day. And our milk for the morning coffe was milked last night, and drawn from Chatam Four Corners, one hundred and thirty miles distant from our city. Some years ago it was proposed to Mr. R. L. Stevens, to have a freight train on his road, but he thought one car only would be used, and that would not pay. Now look—there is a blackberry train! All this intercommunication is a great civilizer—all sorts of people are brought to a knowledge of each other, and a knowledge of the business of their own country and the world. The birds used to have the blackberries all to themselves—nobody could get the one-thousandth part of them. I say nothing of the whortleberries which now come by rail, and are on the tables of everybody. And the lands near the railroads are growing more valuable every day, and they are in course of cultivation and improvements, and without the railroads they would not have been reached this century, and hardly that. The benefits go with the roads.

One improves the other with a rapidity which resembles that of the trains which glide through the lands."

For the New England Farmer.

THE FARMER'S SONG.

BY HERBERT INGALLS.

On Monadnoc's lofty summit
Burns the sun of early morn,—
Up the East he comes in beauty,
And the day again is born;
Forth with cheerful hearts and happy,
To our labor let us hie,
Ere the birds have hushed their matins,
Or the sparkling dew is dry.

Cheerful are our hearts and voices,
Every limb is light and lithe,
And the billowy grass before us
Bendeth to our keen-edged scythe;
And when noon-tide pours upon us,
Hastening to the fields away,
We inhale the rarest perfume
'Mid the sweetly-scented hay.

When the quiet evening closes,
Gathering to our homes again,
We enjoy the sweet reflection,
That our life is not in vain.

Little know the pampered idlers
That despise our stubborn soil,
All the joys of mind and body
That spring up to bless our toil;
Not within the shadowy future
Look we for a brighter day,
For each bright returning morning
Brings new duties with its ray.

Thus our days in peace are passing,—
Thus shall pass till life is o'er;
We are healthful, we are happy,
What can mortal covet more?

Rindge, N. H., Aug. 20.

For the New England Farmer.

THE SEASON AND THE CROPS.

The farming season of 1853 opened beautifully. The snows were early dissolved, the frost which penetrated the earth the last winter to but a moderate depth, soon yielded to the warm sunshine, and mud, the common appendage of a New England spring, held but a short and timid reign. Of course, spring crops were got in, in good season and condition, and the moist month of May operated favorably to the full production of agricultural products. June followed, a rainless, almost cloudless month, and the warm sunshine, unaided by moisture, severely pinched the grass crop, so that with the killing out of the drought of 1852, and the dryness of this month, the average crop will not greatly exceed that of last year. On some farms it may be one-fourth greater in yield, while on some, it falls short. It is pretty certain that grass lands in general must either be re-stocked, manured, or something else done for them, before they can be restored to the fertility of 1851.

Oats, barley, peas and meslins have given good crops. Corn came up well, but in many fields was much injured by the worm, which, contrary to established theory, showed no respect to the time or manner of plowing. Indeed, we saw many fields which were plowed last fall, some of them as early as Aug. 20, where his desperado acts were so effectual as to leave sad mementoes of his labor in visible form through the summer, and in one field where the land was plowed last September, the crop was nearly ruined by this worm. (Quere, has the dryness of last year any thing to do with the increase of worms, &c., this season.) Potatoes exhibited a fine appearance through the summer months, the vines grew tall and stout and produced a profusion of blossoms, like the potato vines of olden time. We saw in our travels some three or four fields, where the tops gave indications of the first stages of rot, as early as Aug. 20, and in the evening in our own neighborhood, we have discovered the frost bitten odor arising from fields of this crop, which is a sure indication that the rot is in the vine, and unless this is cut off it will soon communicate to the tuber. We shall give further particulars with regard to this crop, after they are harvested.

Buckwheat gives a luxuriant growth and promises well. This, in a few years past, has become a prominent crop, and is probably the very best cleanser of foul, weedy soils, that can be introduced, and is with all a very good pulverizer.

The crop of small early fruits was good, apples, pears and plums will give but a slight crop. The excrescence on plum trees which has come upon them as a fire plague for the last two seasons, threatens their extermination. Yours truly.

Elmwood, Sept., 1853. W. B.

For the New England Farmer.

FRUITS, &C., OF IOWA.

Mr. Editor:—As many are yearly wandering from the old Yankee land, the home of fruit, to this Western region, it may be interesting to such to learn something of our present and future prospects of fruit. To those reared amidst the luxuries of the varieties of the fruits of the old States, a deprivation of them may be reckoned among the greatest deprivations incident to a new country.

Our native fruits are somewhat limited in number. Blackberries, black raspberries, gooseberries, strawberries, mulberries, grapes—generally inferior to the fox grape of New England—wild cherries, crab-apples, plums of various sizes, butternuts, black walnuts, hickory, pecan and hazelnuts, are the most important that now occur to me. Both the soil and climate seem well adapted to the culture of most fruits of the temperate regions. The small fruits, such as strawberries, raspberries, currants, &c., produce abundantly in our gardens. Apple trees grow luxuriantly, and Iowa can now produce as fine specimens of the apple as any State in the Union.

The successful culture of the fine cherries and pears may, as yet, be considered doubtful. Standard pear trees sometimes die in full foliage, as though the communication between the roots and trunk was suddenly destroyed. Very many of the trees, apparently thrifty, have dead spots on their trunks, from a third to half or more of their circumference. The fine cherries are often injured in a similar manner. The quince and plum trees thrive well, but the curculio generally destroys the plums.

Peaches are uncertain, though we have some years abundant crops. Budded peach trees seem to be shy bearers here, if not elsewhere. Much attention is now directed to dwarf pears, and there

are now in this vicinity promising specimens of many varieties. Thus far, the dwarfs promise well.

The Catawba and Isabella grapes do well, and some few vineyards are in cultivation.

The apple, every thing considered—its ease of cultivation, its various uses, its prolonged season in use, may be considered the staple fruit everywhere in the apple region. With these we are as as well supplied in Burlington, and at as cheap a rate, as you in Boston; and our oldest orchards, as yet, have hardly approached *manhood*—young ones yearly coming into bearing, and an increasing attention paid to the planting of more orchards.

The past spring the nurseries of this county, alone, sold from forty to fifty thousand fruit trees. There is every facility of obtaining fruit trees. The nurseries here afford nearly all the varieties of fruit and ornamental trees and shrubs cultivated in eastern nurseries, and these too at a price nearly fifty per cent. below the price of eastern nurseries. We can obtain apple trees here, suitable for planting into orchards, at $10.00 per hundred—$90.00 per thousand—grafts, ready for planting out, at $20.00 per thousand. A little trouble and a trifling expense give the farmer his orchard. Thrifty one year old seedlings are root grafted, grown in the nursery two or three years, planted into orchards, and these in a few years fruiting.

In the primitive days of New England these orchards were made of seedlings—relying upon chance to give them good apples enough for the table—the mass to be converted into cider. Not so here. Seldom any but grafted trees are put into the orchard; the windfalls and the refuse make our cider, and, though not of Jersey quality or reputation, it passes with the temperate while sweet; for in these days of go-aheadiveness—days of railroads and reapers and mowers, no intemperate man can stop to get drunk on the one horse power of cider. To speak after the manner of politicians, this root grafting and the multiplication of orchards in the West, has the odor of the "Young America" about it. In spite of the gophers at the roots of our trees, the borer at the trunk, and the worms and caterpillars at the foliage, it is the "Manifold Destiny" of the West to be the greatest apple region in the world.

This world will "go ahead," even on the "latter clause" of Davy Crockett's motto. If right, the succeeding generation can begin where we left off—(if we don't get through)—if wrong, they have only to learn prudence from our rashness, then go ahead on another track.

We of Iowa, though west of the Mississippi, just believe that we are in the very centre—the real focus of the fertility of soil—the centre of civilization; and all the neighboring States believe the same of themselves. If there be an odor of vanity in our belief, it's of a consoling nature, and doeth good like a hot flannel in a chill. Now, to rebut the bold presumption that we have vanity or State pride, we introduce the evidence.

We have aspiring churches and school-houses; tasty dwellings and log-cabins, big rivers and big prairies; land enough for a farm for each man in the State; isms and ites, political and religious; office-seekers enough to fill all offices; men enough to supply every woman with a husband; insects that annoy man and beast; insects and reptiles to prey upon vegetation; snakes that bite hard and easy; weeds in all their varieties; patent medicines to cure all diseases; Durham short-horns and schrubs; Morgan horses and Indian ponies; swine of the Berkshire, China, Suffolk and Prairie shark breeds; Shanghae, Cochin China, Chittagongs, Bolton Grays, Bantams, &c. of the fowl kind; and as for the railroad mania, yours of New England could be merged in ours. In fine, just now, we are only a few grades better than other folks; but we have a "smart chance" of being transcendent in a generation or two, when we get a good cross of all the varieties of people that make our population. If we only had a "leetle sprinkling" less of the ague, a plenty of money and stone fences, this would be *the* place.

NEMO.

Burlington, Iowa.

REMARKS.—We publish with pleasure the above sprightly communication from NEMO, and hope to hear from him again, and learn his name.

For the New England Farmer.

POTATO AND ONION CROP.

MR. EDITOR:—"Line upon line, precept upon precept," now, as in olden time, constitutes the basis of knowledge. Of what use is it to speculate upon the chemical operation of this or that phosphate, improved or not improved, if the facts observed in the field do not sustain our speculations? My attention was arrested by the inquiry from Marblehead, what is best to be done with half a dozen acres of potatoes, so decayed as not to be worth digging? My first impression was, that there might be some exaggeration about it. Subsequent examination has satisfied me that it is no fiction. Instead of half a dozen acres, there is in that vicinity, ten times that quantity not worth digging, on land from which the largest and best crops have usually been obtained. The story is general, that the *Chenangoes* have failed almost entirely. One gentleman informed me, that from ten acres planted in their field, they could not obtain potatoes that they dared to use upon their table. This must be a serious disappointment, as well as loss—probably not less than one thousand dollars on one farm. I have noticed the field in Salem, on which the experiment was made, of covering the potatoes, when dropped, with *tan*, and saw that they were still upright and green where the tan was put, while the other part of the field was completely fallen and decayed—looking most dreary and forbidding. How they will turn out in the end remains to be seen; if I do not mistake, there will be at least, *two blanks to a prize*, throughout the field. It requires something more stringent than *tan*, in these days, to save the potato.

While looking after the potato crop, I have not been unmindful of the onion. At one time, the alarm was sounded that this was likely to fail also. That the *cut-worm* and the *maggot*, were taking more than their share, and that the remainder would be shrivelled and small by reason of the drought. On Saturday, I met a cultivator from Danvers with a load of empty barrels, and inquired of him, how his onions were doing this season? "Pretty well," said he. "I have gathered already one hundred and fifty barrels, and have

them dry in my barn, ready to be sent off—of the *red kind*, which ripen earlier than the white. They are of good size." In answer to the inquiry, how many he got upon an acre. "About 600 bushels" said he—so you see there will be onions enough for a "a hasty plate of soup," even though the potato may give out.

I hope you will look into the matter and give a more precise answer to the inquiry from Marblehead, "What is to be done?" The public ask of Editors, or of members of the Board of Agriculture, or of the Secretary of the Board, instructions in these matters. Of what use is it to have doctors, if death is to seize the patient before the prescription comes?

August 29th, 1853.

Remarks.—We know of no person so well qualified as our correspondent, both from facts in his possession, and from his constant and extended observation, to speak of the potato disease, and to offer opinions upon it. That he will discover the cause, or a remedy, at present, we have little confidence. On this subject we know nothing, *only* that our potatoes rot as well as our neighbors', and that we mean to bear the calamity as patiently as possible, *and plant no Chenangoes another year!*

For the New England Farmer.

HOW TO LAY OFF AN ACRE.

"In the "Editorial" of the last number of the *New England Farmer*, (weekly) date Aug. 20, 1st page, 1st column, is the following:

"How to lay off a Square Acre.—Measure 209 feet on each side, and you will have the quantity within an inch."

Now my "cyphering" don't make it come out so, "any way I can fix it."

209 by 209 produces 43681, which is 121 more than 43560, the number of square feet in an acre. That is, in measuring land by this rule, we should gain 121 square feet in every acre, or nearly 3 acres in every 1000.

This may do perhaps where land is a *drug*, but not in this old Bay State, where almost every foot of soil is worth the *dollars* it would take to cover it.

When "River Cottage" farm is to be sold by this rule, "may I be there to see."

Again, how these 121 square feet or 17424 square inches can be added to a square acre so that "you will have the quantity within an inch," is more than *my* figures tell.

Please explain, Messrs. Editors, and oblige

Yours truly, B. L.

So. Weymouth, Mass., Aug. 25, 1853.

Remarks.—We found the "scrap" alluded to above in one of our exchanges, and thinking it might be convenient, gave it place without testing its correctness.

A New Catalpa.—Dr. Warden, in the August number of the *Western Horticulturist*, gives an account of a new variety of the catalpa, which he found growing in Dayton, O. It blooms two or three weeks earlier than the other variety. The bark of the young trees is lighter in color, the foliage of a deep green and more luxuriant; the seed pods much longer; the form of the tree more upright and compact, the flower larger and a purer white. They are very plenty in Dayton, where they were first introduced some years since by Dr. J. Haines, from two trees which he found on a farm two miles south of that city. Where the original trees were obtained is not known.— *Ohio Farmer.*

THE ATMOSPHERE AND ITS EFFECTS UPON ANIMAL LIFE.

A very interesting lecture was delivered on the 11th inst. by Dr. Griscom, at the New York Mechanics' Institute, on the "Influence of Air in connection with Animal Life." The lecturer commenced by saying that he supposed some of them would be surprised to hear that they lived at the bottom of an immense ocean of air fifty miles deep; yet it was so, and the color of this ocean which is called the atmosphere, is a deep cerulean blue. To perceive this color it was necessary to be able to see at once the whole volume, and also on a calm and clear day, for no color could be perceived if seen in small quantities, or when there was either wind or haziness. In like manner the color of water could not be seen in small quantities, and was only perceptible where there was a vast expanse of ocean. The air was also a substance capable of condensation and expansion. Its expansion was seen in the winds, by which ships were made to traverse the ocean, and also in windmills. The tornado was another phase of its expansion, by which trees were uprooted and houses overturned, and was almost equal to the power of steam. The greatest weight of the atmosphere was fifteen pounds to the square inch, and this weight presses on every way, both upward and downward. To explain the pressure upwards, the lecturer exhausted the air out of a large vase, which then remained fast to the plate on which it stood, but on the air being let in it was easily removed. I remember, said he, being asked the question, if there is a pressure of fifteen pounds to the square inch, the reason why we were not at once crushed by the weight; but this is, as I before explained, because the air presses in all directions with the same equal force, and hence there is an equilibrium. This is a most important element, and one that requires to be known, and also that the air never presses more than fifteen pounds to the square inch.

The next quality of the air is elasticity. Press it to make it occupy a smaller space than it otherwise would, and then take away the weight, and it comes back and occupies its original space. The lecturer then explained that in the air there were two gases; one oxygen, which is that part of the atmosphere by which chiefly we live, and which is the one-fifth part; and the other nitrogen, which is four-fifths of the atmosphere. Oxygen supports life and combustion, and nitrogen restrains its effects and dulls its operations. The quantity of air which a person consumes depends in a measure on one's self, and by training can be made more or less. The tailor and shoemaker take little in comparison with the laborer, and the public speaker or singer, or those who cry commodities for sale through the streets. A man in good health makes eighteen respirations in a minute, and in twenty-four hours consumes fifty-one hogsheads of the air.

As the oxygen which supports life is so small, we ought to be very particular how we permit other gases to mix with it and vitiate it. The blood when it enters the lungs, is black, but when the oxygen acts on it, it becomes red, and sends it through the veins to impart life and animation. This black blood is produced by carbon, and imparts the blackness which we see in the face of persons who lose their lives by suffocation, because the air was not allowed to reach the lungs to purify it. When we send out the air from the lungs we do not send it in the same manner, as we inhaled it, for when exhaled it is as deadly a poison as arsenic or corrosive sublimate. The lecturer showed this by experiments, and filled a vase with his own breath in which a lighted candle would not live. It was such air as killed persons who went down into wells in the country, or who died when a pan of charcoal was placed in a room. The danger of taking impure matter into the stomach was not so great as into the lungs, for the stomach had power to eject impurities which the lungs had not. Beside the impure air which we exhale there are 2,800 pores on every square inch of the surface of the body, and to a body of large size there are 2,590 square inches; and these multiplied make 7,000,000 of pores. There is a sort of drainage pipe in the body, which sends out matter as well as gas, and this pipe is calculated at twenty-eight miles long. The particles of matter which are sent out and which do not dissolve, are so numerous, that in China, where the houses are low, and a great many persons are in the habit of assembling in one room, it has been discovered that, after fifteen or twenty years, these particles adhere to the ceiling of the rooms, that the farmers will contract to put up a new ceiling if they are allowed to take down the old one, so valuable has it been found for manure.—*Scientific American.*

ROOTS.

Roots are divided, botanically, into three grand divisions, or classes, viz.: Annual, Biennial and Perennial.

The first embraces all such as exist but one year. They are produced from seed, sown in the spring, and survive only to maturity. Of this class are pears, beans, cucumbers, &c.

The second, or biennial, as the name indicates, live two years. The first season they produce no flowers, but inflorescе the next summer, and the roots, as soon as the seed has matured, die. The cabbage, onion, beet, carrot, parsnip, turnip, are biennial. If these are reset in the soil in the second year, they will produce flowers, the petals of which will fall, and the germ proceed rapidly to perfection. This is supposed to exhaust the vital principle of the plant, and the root having performed its office, and accomplished the great circle of vegetable mutation, dies, and no power can again restore it to life.

Of the perennial class there is a vast number, as for instance, the rose, geranium, asparagus—likewise trees and shrubs. The existence of these is prolonged indefinitely. The effect of climate and culture on the duration of vegetables, is very remarkable. Many of the perennial plants, by transplanting, are transformed into annuals, if the change is from a warmer to a colder climate. The common *nasturtium*, which, in South America is perennial, in the gardens of North America is an annual. Other instances of a similar mutation might be named.

For the New England Farmer.

FORCING THE GROWTH OF TREES.

Mr. Brown:—Your Wisconsin correspondent, June 28, has replied to one of the objections to high cultivaton of apple trees, which is duly appreciated. There are several others to which he has not replied, and which are quite as objectionable as the one he has selected—one is, the danger of being injured by the cold winters. We had, in this region, nursery trees very hardly dealt with in the winter of 1851—2. Some trees which I took from a nursery were injured, some entirely killed, others but part way down, and started out from the roots; since, many more were affected in the same manner that were left in the same nursery. A little harder winter would have swept the whole of the Baldwins from the nursery and orchard too.

A distinguished pomologist said to me yesterday, while looking at some trees, for which he had taken the first premium, some two or three years ago, that he should lay the ground down to grass and only keep cultivated about six feet square about the tree; he said he was afraid of the cold winters.

Probably a medium between very high cultivation and total neglect, would be as sure a course as any to pursue with trees.

I suppose we may manage a tree in such a manner as to make it grow the fore part of the year and not the latter part. In this way the wood that made in the early part of the year would get so hardened as not to be susceptible to cold.—This may be done by keeping the grass and weeds from growing the fore part of the year and neglecting them the latter part.

I think that a tree will come forward fast enough in this way without applying any manure to it. Some that I set out last year grew from the bottom, above the budding, from two to four feet. They were not in cultivated ground where corn was planted, and they have grown quite as well this season, the land being in Indian corn again. We think with your western correspondent, that the question of high or low cultivation is an important one, and we should be very happy to hear some remarks from the editors of the *New England Farmer*.

M.

Topsfield, August 8.

Remarks.—We think the opinions expressed above are worthy of being put in practical operation. We see fine trees every spring, even when the winter was as mild as the last one, injured by the cold, and this happens invariably among trees under a high state of cultivation. We cannot say more now, but shall be glad to refer to this subject at some other time.

For the New England Farmer.

WHY DON'T THE FARMERS OF MASSACHUSETTS RAISE WHEAT?

Mr. Editor:—The question I have asked is, I think, one of importance, and I should like to have it answered if it can be. If any one should say they cannot raise wheat, I with all respect would say, I think they are mistaken. Wheat can be grown as well as rye and it requires but little more attention; some may ask how I know this; I would reply by saying, that I know by experience, for I have raised it one year, and a near neighbor of mine has raised it this year with good success. For some four or five years I have had a desire to try wheat, but my father and others said it was folly to do it, it would not grow; but I was not satisfied until I had tried it. Two years ago this month I procured one quart of "Blue Stem" Winter Wheat, of Ruggles, Nourse, Mason & Co., and sowed it on a dry, gravelly piece of land on which had been put a small coat of compost manure consisting of horse manure, night-soil, and meadow-mud. The season was very dry, and it did not grow tall but it headed out well without any appearance of rust, insects, or anything else to injure it; the product of that quart was one bushel of as handsome grain as I ever set my eyes on. This I call a great yield. I sold half of it for seed for one dollar twenty-five cents, and saved the rest to sow which I did not do last year, as I intended, but mean to do this week. The above is the result of sowing wheat with me; now for my neighbor's wheat. He sowed three pecks of seed, on half an acre of tolerably good land, though more or less overrun with witch-grass; put on a cord and a half of barnyard manure, sowed his wheat late, the 7th Oct., and it did not spread as it would had it been sown earlier; the land had produced a stout crop of corn which was taken off to make room for the wheat. Now for the result; in the first place, the straw was stout, standing up straight five and a half feet, very even over the whole field. Secondly, the yield was fifteen bushels of wheat handsome enough to bring two dollars a bushel to sell again; judges of wheat said they had never seen better; this was the same variety that I sowed. The half-bushel I sold last fall to an Irishman who sowed it on a quarter of an acre of land, and sowed it very late, the 15th Oct., without manure, where a crop of potatoes had been raised: the straw was stout, the grain very plump and handsome, and as for the number of bushels, I don't know, for he has not threshed it yet, but I think there will at least be seven.

It will be seen by the above experiments that there is no difficulty in growing wheat, at least the variety spoken of, which I think is as good as any I have ever seen, for it is a beardless wheat and better to handle on that account; it is a white wheat and makes white flour, and then is so easily grown. I have heard from different parts of the State, where this wheat has been tried, and it has uniformly done well. The "White Flint," is a favorite variety in some parts of the country, but I have never tried it and don't know how it would do. A few words now in regard to Spring wheat. Three years ago, I sowed a quart of "Italian" Spring Wheat and it rusted so bad that I did not get one good kernel. One of my friends sowed half an acre and it did tolerably well, for he got about eight bushels. I think it is of little use to sow Spring grain, either wheat or rye, for it never amounts to much.

If any one should still say they cannot raise wheat, I would reply that the only reason is you won't try: for I feel confident that we can raise as great or greater crops on an average, than they do in Genesee Valley, which has been celebrated for its good wheat. I further believe it may be made as profitable a crop as may be grown; and I also think that any person who has ever eaten fresh ground flour from northern wheat, and knows how much sweeter and better it is than the flour brought from the West, will, if he can, raise his wheat, so that he may avail himself of one of the greatest luxuries that a person ever enjoyed, bread from fresh ground northern wheat. Now, good friends, in conclusion, let me advise you to sow some wheat this fall do it immediately, before the middle of September if you can, for it will do better, though as I have shown, it will do later. The seed is not very plenty, but I think it can be had at some of the seed stores. J. F. C. H.

Newton Centre, Sept. 6th.

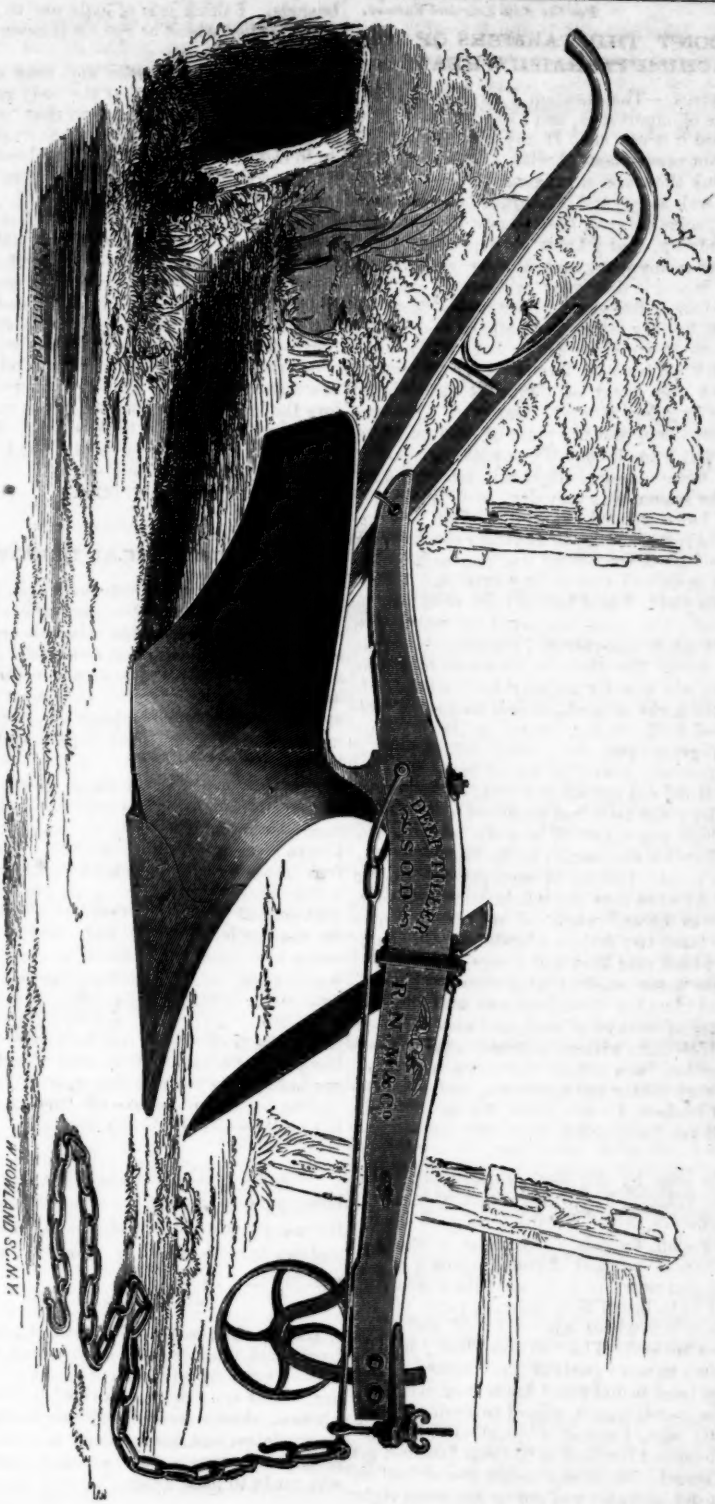
ENTOMOLOGICAL DISCOVERY.

The following note from our friend, Mr. S. Maxwell, Jr., describes a discovery he has made which will prove of considerable value, on account of the ease with which the nit is removed. We have examined a number of plums since receiving the note and find in every case the nit under the brown speck, except where the puncture has exuded gum—then the worm is hatched out and has commenced his depredations.

Curculio.—I have within a week discovered a fact about the curculio which was new to me, and have also found it entirely new to others to whom I have communicated it. All those who have had fruit bitten by the curculio, have probably noticed a little brown spot on the inner edge of the crescent-shaped puncture. That little brown spot covers the egg left by the bug, and the puncture seems to be made for a place of safety for the young worm when hatched, and also to facilitate its operations in boring into the fruit. Persons having plum trees, and leisure, and wishing to preserve a few of the fruit after it has been bitten, can with the point of a penknife, or with the thumb or finger nail, easily remove the spot from its place, and no harm will come to the fruit except the scar left by it.—*Greenfield Republican.*

Remarks.—This will certainly not be new to many persons, having been successfully practised for many years. It is a slow and tedious process, and can only be done by those having little or nothing else to do.

Drying Tomatoes.—The *Ohio Cultivator* says, (early last summer,) "We ate some very fine tomatoes not long since, dried in the following manner: Fruit fully ripe was scalded, strained through a sieve, slowly cooked half an hour, spread on clean plates, and dried within an oven, the whole process requiring about two days before the fruit was ready to pack away."



DEEP TILLER NO. 77.

[Entered according to Act of Congress, in the year 1853, by RUGGLES, NOURSE, MASON & Co., in the Clerk's Office of the District Court of Massachusetts.]

For the New England Farmer.

PLOW DEEP TILLER, NO. 77, AND DEEP PLOWING.

Mr. Brown:—I was well pleased with your comments in the July *Farmer* upon the great plow, No. 77, and its performances at Lowell and Ipswich. Probably for deep and difficult work, this plow stands unrivalled as the king among plows. The enterprising manufacturers merit the thanks of the farming public for the introduction of the Deep Tiller—a plow, in my opinion, calculated to add much to the productive value of land in certain cases, such as where recently-drained bogs and swales are to be broken up and made subject to refined cultivation, or where tamer lands are ready for deep tillage. Plows are plenty enough that will lay furrows six or seven inches deep, about as well as it will probably ever be done; but those of us who wish for deeper plowing, know well the vexation attending our attempts to practice it—particularly if the land be difficult sod—with the plows we can generally procure. For the benefit of those farmers who favor deep tillage, but have not an instrument to effect it with that suits them, I will now particularly describe this plow and its work.

Deep Tiller, No. 77, is bold and grand in its outlines, and yet shows you at a glance that the artist's "line of beauty" is pleasing and graceful in the plow, as well as in works of art and taste, strictly so called—that the beautiful and the useful may be combined in our agricultural implements. This plow is equal to the overturning of furrow slices 12 inches deep by 18 to 20 inches wide, in the most difficult soils, where the sod is composed of the roots of brakes, water grasses, and other wild herbage. Its range of excellent practical work may be stated at from 8 to 13 inches deep by 16 to 20 inches wide, though perhaps its very best work is 10 to 12 by 17 to 18 inches.

The mould-board, moderately concave, is constructed upon accurate mathematical principles, and has an equality of curvature and harmony of proportions throughout, a combination of curved lines and planes, which present an equal bearing against the furrow slice, so that the entire working face of the mould scours bright, and takes a high polish in any soil. When my Deep Tiller came to me new from the factory, the mould was coated with blue varnish; and when put at work, I noticed that the varnish was entirely scoured off the third round in plowing. The mould-board so effectually twists its furrow-slice as to mellow and disintegrate the overturning earth, breaking open any undue cohesion of parts, while the same is so equally done as to leave the plowed land lying even and regular, and in a fit condition for the raising of a fine deep tilth.

The share and forepart of the mould, attenuated and gently rising, form an easy wedge to enter the ground and separate the slice on the under side from the unplowed land, and to present the slice to the twist or curvature of the mould-board with so little friction, that a great work may be done by the plow without the necessity of employing an inconvenient amount of team; and it proves in practice that four good oxen will work the plow in yielding easy soils, or six in those that are stiff or boggy.

The length of the mould-board, measured in a straight line from the upper corner of the wing in the rear to the point of the share, is 4 feet and 4 inches. The extreme width of the mould, measured at its upper corner in the rear and at right angles to the plane of the landside, is 25 inches, and its height at that point is 18 inches. The length of land side is 3 feet. The height of the standard, or from the ground to the under side of the beam where it is bolted to the mould, is 19 1-2 inches, which enables the plow to swim clear through tall grass or other clogging substances. The length of the beam, from the standard bolt to the fore end, is 4 feet; and the height at the under side of the end of the beam is 19 inches; which enables one to adjust the line of draught so that the team may be brought near the working or body parts of the plow. The length from the standard bolt back to the end of the left or beam handle, measured in a straight line, is 5 feet, which gives the plowman a long handle, and powerful leverage for the control of the great plow in its great work. Then, too, the various parts of the plow are made of selected material, of a quality combining lightness with adequate strength, in order to dispense with all superfluous weight, and adapt the instrument to the control of plowmen of "fair to middling" size and muscular power. A large light wheel is attached to the land side of the fore end of the beam, and is set pretty well off to land, so as to operate as a brace to neutralise any undue side-pressure of a great slice, when plowing stubborn bog or swale sod, and to facilitate the plowman's labors in keeping a true course through such land. The plow is rigged with a draft rod and quadrant clevis—very strong adjustments, and affording the means by which the plowman may guage the plow to any desirable depth and width of work, and have the line of draught such as to give the instrument a level run on its sole-bearings.

There is one result produced by the Deep Tiller, which I do not know as I can describe intelligibly, but I will try. The plow, in the act of twisting and inverting its deep slice, mellows it very much; and a portion of those parts that are not held together by the roots of the sward, roll down into the channel, forming a slanting side to the inverted slice; upon this inclined base the next slice is deposited, and so on—the edges of the inverted slices, from the top down, say half way, or as far as they are preserved entire by the roots of the sod, being matched in side by side; so that while the sod is buried sufficiently to be out of the way in after-cultivation of the plowed land, and to smother and kill the vegetation attached to it, the surface soil is not turned entirely to the bottom, but is mixed in layers with the under soil—a part of the latter being below, and the rest above the surface soil. This is regarded as an excellent result, especially where one wishes to deepen his plowing, and to improve the subsoil; but does not want too thick a layer of it on the surface at a time, if it be quite unfertile.

I would like to show you, friend Brown, a field of nine or ten acres of recently drained swale land, which was broken up a foot deep with this plow last November, and from which a crop is now being harvested. The land is a part of a low meadow,—not of peaty soil, but a stiff, heavy loam, approaching in texture to clay,—subject to

an annual overflow by the high freshets of the Connecticut river, and with a small stream and springs passing through it, which, before being lowered from the surface by the drains, made the land cold and wet. Water grasses and other poor herbage had pretty general habitation on the land, and had held possession nobody knows how long. The land was ready for the plow before my Deep Tiller came to hand, and a commencement was made with the largest plow that could be obtained here. This plow worked about nine inches deep pretty well, except in the more stiff and swaly places, and there it had not power to stand up straight and manage the tough sod properly. But when the No. 77 was put to work, it readily turned the swale over in furrow slices 12 inches deep by 18 to 20 inches wide. The Deep Tiller going mostly below the roots of the sward, separated the furrow slices from their native bed and completely inverted them; but the other plow had to struggle with the coarse, wild roots, too near the surface, where they were larger and more firmly placed, and often failed of inverting the sward. In June last, a good coat of manure was spread over the surface and harrowed in; then the land was cross-plowed about 4 inches deep, and a fine seed bed was made. Oats were sown for fodder, together with grass seeds for future mowing. The oats are now being mowed and made into hay, and the burden is enormous. The grass has come well, and it now appears probable that abundant crops of good hay may hereafter be taken from the land. It is calculated that the Deep Tiller has already much more than paid for itself, by its efficient service in the improvement of this land. Indeed, for the next operation after draining such land, I know of no instrument so valuable as this plow.

I would also like to show you a neighbor's corn field, a deep fat soil, a part of which was broken up from grass a foot deep with my plow, and the remaining part with another plow at a less depth—the manuring being alike in quantity on all parts, and the cultivation also, with the exception of the plowing. The season here, up to about the first of August, has been pretty dry, and the crop upon the deep furrows has evidently quite an advantage over that upon the shallow ones. The ranker growth and deeper green color of the former, in contrast with the latter portion of the crop, are quite observable, and the line through the piece where the two plowings unite is quite apparent in the crop.

It is a noble and pleasing sight to observe the Deep Tiller at work—for instance, in a stubborn bog or swale, and notice how bravely and firmly it stands on its bearings, twelve inches deep in the ground, overturning its huge slices in a majestic and finished manner, and leaving the plowed land in a fit condition to yield a fine tilth to the harrow or other instrument, and a deep seed bed, where the roots of cultivated crops may range at will.

Whenever my great plow is put at work, either on my land or that of my neighbors, I contrive to get hold of the handles for a while, if other engagements will possibly permit, and feel as well satisfied with the employment, and that this old world of ours is generally wagging about right, as I ever do in any place or employment. Having held the No. 77 myself in various kinds of land, I can confidently commend it to those persons who have wet or stubborn lands to reclaim, or such more feasible soils as are ready for a deep furrow.

F. Holbrook.

Brattleboro', Aug. 10, 1853.

THE FARMER'S DAUGHTER.

She may not in the mazy dance
With jewell'd maidens vie;
She may not smile on courtly swain
With soft bewitching eye;
She cannot boast a form and mein
That lavish wealth has bought her;
But ah! she has much fairer charms,
The farmer's peerless daughter!

The rose and lily on her cheek
Together love to dwell;
Her laughing blue eyes wreathe around
The heart a witching spell;
Her smile is bright as morning glow
Upon the dewy plain;
And listening to her voice we dream
That spring has come again.

The timid form is not more wild,
Nor yet more gay and free,
The lily's cup is not more pure
In all its purity;
Of all the wild flowers in the wood,
Or by the crystal water,
There's none more pure or fair than she,
The farmer's peerless daughter!

The haughty belle whom all adore,
On downy pillow lies,
While forth upon the dewy lawn
The merry maiden hies;
And with the lark's uprising song,
Her own clear voice is heard;
Ye may not tell which sweetest sings,
The maiden or the bird.

Then tell me not of jewelled fair;
The brightest jewel yet
Is the true heart where virtue dwells,
And innocence is set!
The glow of health upon her cheek,
The grace no rule hath taught her,
The fairest wreath that beauty twines
Is for the farmer's daughter.

For the New England Farmer.

TALL CORN.

Messrs. Editors:—*Gentlemen*,—I have noticed in several of our agricultural papers descriptions of "tall corn," some of which, it was said, had obtained the height of eight feet three inches.

Having occasion to visit Camden, Maine, quite recently, I saw a piece of corn upon the farm of Hon. Joseph Hall, at that place, some of which, upon due examination, measured upwards of nine feet, and the general average of the entire lot was more than eight. This corn was planted upon reclaimed land that but two years since was a wild pasture.

Should you ever visit the vicinity of Camden, it would be well worth your while to make Mr. Hall a visit, and to examine not only the present prosperous appearance of his farm, but also to note the extensive and varied improvements he has made thereon since it came into his possession. He removed from this city in the winter of 1850, and by persevering industry, joined with a thorough practical knowledge of agricultural pursuits, his land has been benefited and has greatly advanced in value. Mr. Hall is very industrious, and takes

a noble pride in all that pertains to his occupation; and if he continues the same course of farming, I confidently predict that his will be the model farm of the eastern part of Maine. VERITAS.

Boston, Aug. 22d, 1853.

For the New England Farmer.

POTATO DISEASE.

TO THE EDITOR OF THE FARMER:—You and your readers must be heartily tired of seeing the above caption. Among the hundred certain remedies which have been prescribed, I believe all have proved failures. I will state facts, and leave all to make their own conclusions.

It was first noticed here generally in 1845. In other portions of the State it had before been severe. That year the disease attacked them after fully grown and ripe. Had it been understood, most of the crop might have been saved; while, without any knowledge, nearly all were lost. All sorts of experiments, as mixing lime, &c. with them, were tried without success. The spring following I carried from my cellar more than one hundred bushels, and spread them on less than ten square rods of ground—soil, a secondary formation of coarse gravel—one mile from, and two hundred and fifty feet above the Lake, (precisely the same soil as they grew in.) They were *spaded* in, and having some parts not wholly decayed, they grew; were thinned and cultivated, producing some twenty bushels; were dug late in the fall; put on the bottom of a warm, damp cellar, with others above them; taken out in May following perfectly sound.

Does any one want stronger proof that the disease is *not* in the *potato* or the *soil?*

Another season I had given special directions to my farmer to keep close watch of his potatoes, and should they be struck with blight to *pull* the whole at once, leaving them in the hill as they grew. I was absent some weeks, and instead of watching the *tops*, he daily pulled a few hills in the wettest part of the field for a week, and finding all sound, neglected it. He soon after found they were rotting badly. The hills pulled, (about 100,) scattered through the lower part of the field, were found perfectly sound, and the others near them entirely worthless.

Some three or four years since, I noticed the disease had just appeared when potatoes were ripe, but tops perfectly green. Knowing a widow lady who had planted an acre and had a large crop, (more than three hundred bushels,) I immediately called on her; found the whole struck with blight where, one day previous, to my certain knowledge, there was no symptom of it. I told her to have the whole pulled immediately, which was done within six hours. They were dug during the following week, spread in dry places, and the whole saved in good order. One row, left for an experiment to satisfy her father, (an old gentleman of more than seventy years of age,) accidentally present, in ten days were perfectly *rotten* in the hills.

A favorite *theory* has been that the potato has RUN OUT, and that we must produce new ones from seed. *Facts* have shown that the *new* sorts have been most liable to rot. Have not experiments and facts fully demonstrated that the disease is atmospheric, and that no precautions can produce any effect further than they change atmospheric influence? Also, that after the potato is grown and ripe before struck with disease, if they are promptly attended to by pulling or cutting the tops on its first appearance, the entire crop may be saved, when a few day's delay may cause a total loss. C. GOODRICH.

Burlington, Vt., Aug. 13, 1853.

TRANSACTIONS OF THE NEW HAMPSHIRE AGRICULTURAL SOCIETY.

A volume has recently appeared from the press of Butterfield & Hill, Concord, N. H., that deserves more than a passing notice. The typographic and artistic execution are highly creditable to the press from which it has issued, and to the taste of the committee who had the oversight of its publication. This volume contains the transactions of the State Agricultural Society, for the three years of its existence, and although it does not equal in size the more ponderous tomes of some other States, yet we look upon it with much interest, as the commencement of a series of publications that are destined to take an honorable place in the agricultural literature of the country, and to exert an important influence upon the prosperity of the granite State. New Hampshire has a hard soil, which is more remarkable for the production of noble men, than of luxuriant vegetation. Its early settlers were principally employed in lumbering, trading and fishing. But for two generations past, at the present time, and for all future time, agriculture has been, is, and must be the leading occupation of its inhabitants. We are glad to see her people stimulated by the doings of sister States, especially of Massachusetts and New York, imitating their example and walking in their steps. Years ago they took them for their pattern, in the matter of education, and now, in a similar spirit, they are taking hold of the work of agriculture. Although a majority of her legislators have ever been farmers, and all of them have been elected by majorities of farmers, yet they have ever extended a reluctant and parsimonious hand to aid the most important interest of the State. But although the government has done but little, comparatively, a healthy public opinion has been forming, individuals have been industriously at work. Gov. HILL accomplished a good work through the columns of his agricultural paper. A large portion of the State is better suited to grazing than to any other culture. Hence we should naturally expect her people to be greatly interested in the raising and improvement of stock, and much has in fact been done in this direction. The example of New Hampshire's most eminent son upon his farm in Franklin, as well as that of many of her most intelligent citizens, has not been without influence. The products of the dairy have been greatly improved within our own recollection, both

in quality and amount. We remember that a young and enterprising son of New Hampshire, then residing in Boston, some twenty-five years ago, printed at his own expense, and circulated through the State, a sheet of plain and simple directions for making and preserving butter. Upon that sheet it was stated that more than fifty thousand dollars were annually lost to the State, for the want of proper attention to this most important farm product. At that time, the butter of New Hampshire was considered quite inferior to that of Vermont. Agricultural papers from other States have found their way into the State. Some ardent friends of the cause have been assiduously engaged in its promotion for many years. Some four years ago, public opinion appeared to take a long stride in advance of its former position. The value and importance of associated effort, as applied to this subject, seemed at once to become apparent to the farmers of the State. In 1823, Gov. Woodbury, with a spirit worthy of the good name he left behind him, recommended to the Legislature to make an appropriation for a geological survey of the State. Some curious remarks were made in the House, when this portion of the message came under discussion. One man thought, *agricultural shows exhibited many things too small for gentlemen. In his part of the country, farmers already knew more than they could practice.* Another said, that for the Legislature to vote away the public money, to encourage men to take their oxen twenty to thirty miles, fasten them to heavy loads, and beat them unmercifully, for the sake of a few dollars and the amusement of the lookers on, is what our constituents, who earn their money, will not justify or sanction. Voting money for such a purpose, is encouraging cruelty, immorality and dissipation. But those days went by, and the Legislature appropriated money for a survey of the State. This was completed by that distinguished geologist, Dr. Jackson, and his report, which has been freely circulated through the State, has been one important means of awaking an interest in the science of agriculture. The Legislature should be cheerfully credited with all it has done. It has from time to time, afforded aid to the County Societies, and the last year it consented to publish the transactions of the State Society, as a State document, and in consequence of this consent, this volume has seen the light. This we believe, is all the aid which it has afforded to this Society. We trust it will not be long before their legislators will imbibe more largely the spirit of the age, and no longer dole out their aid with a niggard hand to this, the most important institution within their borders. In Dec., 1849, the State Society was organized, and the Hon. G. W. Nesmith was placed in the President's chair. In the month of June following, a series of agricultural meetings was held in the State House *at Concord*, and an act of incorporation granted to the State Society, but no appropriation was made to give vitality to its movements. But noways discouraged, they undertook to get up a State Fair at Concord, the following October, and considering it was the first attempt, their success was admirable. The range of premiums was unusually wide, and by no means confined to the products of the farm. A variety of mechanic arts, the products of the loom and the needle, came in for their full share of encouragement. This was no doubt judicious, for by this means all classes were interested in promoting the success of the exhibition.

In the June following, a convention was held at Concord, of delegates from the State Society, and the several County Societies, to consult on the condition and necessities of agriculture in the State, and to propose some plan for its relief. This meeting was followed by a meeting of the members of the State Society at Concord, on the same month. The Legislature was again memorialized for aid, but with the same result as before. The annual fair was held at Manchester, in October, and the exhibition of stock, and the display of the products of mechanical skill were very fine. But the striking features of the occasion, were the presence of Daniel Webster, and the address of M. P. Wilder, two of New Hampshire's noblest sons. Mr. Webster was greeted with an enthusiasm alike honorable to him, and to the thousands of his native State, who were gathered around him, a large majority of whom will remember that as the last time on which he stood before them. Taken in all its parts, the exhibition during those fine October days was one of the most glorious events that ever occurred in New Hampshire. In 1852, the agricultural discussions were continued during the session of the Legislature; at this session the Legislature passed the resolution authorizing the publication of the transactions of the Society, to which we have already referred. The annual exhibition was held at Meredith Bridge, and in respect to fruit especially, appears to have excelled that of the two former years. In some respects we should infer from the report that the exhibition scarcely came up to the standard of the previous year. The premiums were very numerous, and embraced a wide range of objects. They were bestowed with a liberal hand. The report for this year is well written, and together with the essay of Dr. McFarland, upon Draining and Subsoil Plowing, of H. F. French, Esq., upon Fruit Growing in N. H., and of Prof. Hoyt, upon Orchard Culture, in connection with the laws of vegetable growth, constitute about half the volume. The essays above referred to are all highly creditable to their authors, and deserve a place upon the table of every farmer in New England. They are worth more than the cost of the whole volume. We hope the practice of giving premiums for the

best essays will be continued, and will be adopted by other societies more generally. It will create a species of literature, that will be useful not only to the rising, but to the risen generation. The plan of occupying three days in the annual meeting of the Society, adds very much to the interest of the occasion. There is then no excuse for hurry, bustle and confusion, but all goes on with order, deliberation and system. These *protracted meetings* of the dwellers among the hills and valleys, who see but little of each other during the year, are not only pleasant but highly useful in many ways which we cannot now specify. Our remarks have extended to a much greater length than we intended, and we cut them short with the wish—that when the fair women and the strong men of the Granite State come together at Manchester, to hold their annual festival, may we be there to see.

For the New England Farmer.

"EXPERIMENTAL FARMING" ONCE MORE.

THE PASS.

Messrs. Editors:—I find in the July number of the *Farmer*, that your correspondent, Mr. Silas Brown, of Wilmington, asserts that I criticise the communication, "Experimental Farming," with a home thrust and make a pass at his friend S. F., of Winchester. If asking a few questions of one whose opportunities for observation have been more extensive than mine, is making a pass at a man, I am guilty of that frequently, and if Mr. S. F. will answer those questions fairly and fully as Mr. J. G. Chandler has one of them on page 278, June No. *Farmer*, he will reflect more light upon practical agriculture than will be likely to be received from all these scribblings on experimental farming.

I noticed his carefully adjusted armor, but there appeared to be places where a bow drawn at a venture might perchance lodge an arrow between the joints of his harness; yet to try to draw out the practical information which his opportunities for making observations on the growth of crops, &c., in different parts of the country, seemed so well adapted to enable him to give, promised more immediate profit than open hostility.

THE OPINION.

But let us return to friend Brown, who says that he has yet to learn how J. is going to defend himself in his opinion and by his spirit of controversy against the results of the experiments of our best practical chemists. Here let me state once for all, that *I intend to do no such thing*. My opinion has been established upon the authority of just such men as he refers to. Indeed, my limited knowledge of the chemical analyses of soils, my confidence in the importance and value of the same, have each been derived from our best practical chemists. The writings of Prof. Johnston, Mapes and Norton, Dr. Dana and others,—not excepting some of the contributors to the *N. E. Farmer;* see Vol. 1, p. 389—in entire volumes bearing their names, and in communications to various agricultural journals, have for several years beguiled much of my leisure into hours of pleasurable—and I had fondly dreamed profitable—study, and have done much towards influencing me to abandon my mechanical occupation under the impression that a wider field was open for the study and application of the sciences in the pursuits of the farm. But just as I had begun to fancy myself established in the element of scientific agriculture, Mr. Silas Brown, *an experimental farmer*, informs us that chemists themselves have acknowledged the imperfections of chemical analysis of soils as applicable to practical purposes in agriculture.

SPECIAL ACKNOWLEDGMENTS.

Since your correspondent and his friend S. F. quote so largely from, and expatiate so freely upon, the confessions and acknowledgments "of chemists themselves," let us see if a few more cannot be extorted from them. Here is one from Prof. Johnston,—found in his Lectures on the Application of Chemistry and Geology to Agriculture, Lecture XIII: "Some persons have been led to expect too much from the chemical analysis of a soil, as if this alone were necessary at once to explain all its qualities, and to indicate a ready method of imparting to it every desirable quality, while others have as far depreciated their worth, and have pronounced them in all cases to be *more curious than useful*. The truth here as on most other subjects, lies in the middle between these extreme opinions. If you have followed me in the views I have endeavored to press upon you in regard to the necessity of inorganic food to plants—which food can only be derived from the soil, and which must vary in kind and quantity with the species of crop to be raised, you will at once perceive that the *rigorous* analysis of a soil may impart most valuable knowledge to the practical man in the form of useful suggestions for its improvement. It may indeed show that to apply the only available substances to the soil which are capable of remedying its defects, would involve an expense for which, in existing circumstances, the land could never give an equivalent return. Yet even in this latter case, the results of analysis will not be without their value to the prudent man, since they will deter him from adding to his soil what he knows it already to contain, and will set him upon the search after some more economical source of these ingredients which are likely to benefit it most." Now hear Prof. Norton,—Elements of Sientific Agriculture, p. 185: "The farmer must remember that all of the substances with which he has to do, all of the agents that are at his command, are connected in their composition and action with the fourteen elementary bodies, organic and inorganic, that have been described in this little work. If he preserves them, or if he adds them as manures in an improper form, his utmost exertions are of little avail; if in proper form, his land becomes fertile, and his returns all that heart could wish. If one is absent, the others may all be useless; if one is present too largely, the same effect upon the action of the others may ensue. How immensely important, then, and how directly practical is the knowledge of these elements, and of the immense variety of combinations in which they present themselves."—Prof. Johnston again. Lec. XIII, § 2: "The quantity of some of these substances which is necessary to plants is so very small, that nothing but a

refined analysis of a soil is capable in many cases, of determining whether they are present in it or not—much less of explaining to what its peculiar defects or excellencies may be owing—what ought to be added to it in order to render it more productive—or why certain remarkable effects are produced upon it by the additional mineral or animal manures."

PRACTICAL RESULTS.

In the *N. E. Farmer*, Vol. 2, p. 386, is an account of an instance of the successful application of chemistry to agriculture, at once clear and conclusive, by which it appears that by the addition of an artificial manure at a cost of $10 per acre, more than twenty-nine bushels per acre of wheat was raised on a field of ten acres, previously incapable of producing corn. But lest I should be thought to jump at conclusions wonderfully, in supposing that if Hon. Reverdy Johnson, near Baltimore, raised large crops, we can do the same here, I will drop this, and refer to another, nearer home; and not having noticed it in the *Farmer*, I will quote the principal facts as I find them in another paper.

"Mr. Wm. P. Dickinson, of Hadley, had a field of eight acres thoroughly grown over with moss. He procured an analysis of it by the late Prof. Norton, and was told that it was deficient in two or three ingredients which could be cheaply supplied. He plowed the field and treated it in every respect as Prof. Norton advised, with the exception of here and there a couple of rows, which were cultivated as he would have cultivated the whole if he had not been advised otherwise. The result is, a crop of corn now in the field equal to perhaps twenty bushels per acre where cultivated in the old way, and very nearly fifty where cultivated as Prof. Norton advised. Mr. D., after keeping an exact account of the expenses, gives it as his deliberate opinion that the increased profit in consequence of Prof. Norton's advise is at least fifty dollars this year, and besides this, he has better hopes for that land hereafter."—*H. and F. Express.* The names of the farmers being given, Mr. Brown may in these instances know who raised large crops after having their soils analyzed; but lest these results of one year's trial of particular ingredients as manure should not satisfy the most of us, I will quote from the *Plow*, p. 254, a few lines of what an eminent professor of chemistry says of their use in England: "Scarcely anything has accelerated the progress of agriculture so much as the introduction of artificial manures. By means of artificial manures the produce of this country has been considerably augmented; new crops have been introduced into the usual rotation, and land so sterile that it would not repay the cost of cultivation in the usual way, has been forced at once to yield remunerative crops. Even supposing the land to be in such a condition as to yield the maximum return which the usual rotation of crops is capable of furnishing, the extra command of artificial manures would still materially increase the profits of the farmer, as it would enable him to dispense with those crops which are less remunerative, and to replace them by others which require a larger dose of manure, but which also yield a larger profit.—These facts, says the editor, are equally true and applicable to the business of farming in this country as in England."

THE FLIGHT OF FANCY.

In the still too common mode of culture, where the common plow has been run but a few inches deep, and that in a manner and at times well suited to form a hard division line between the soil and the subsoil, so that crops were drowned by rains, or scorched by drought, no doubt much depends upon a favorable season. But let us look around and see if the buds of promise already beginning to open, do not plainly foretell "a good time coming," when, by adopting a good system of draining—by the timely and sufficient use of such implements as shall be found to bring both the soil and subsoil into the best possible condition for the growth of the desired crops—by carefully saving the waste water from the farm house, as well as barn-yard, and applying it to growing crops in a more or less dilute state, according to the dryness of the season, by the encouragement of the growth of belts of hardy trees in such positions that they shall shelter tillage lands from both cold and drying winds, farmers shall not only be able, notwithstanding the ordinary changes of seasons, to secure good staple crops, but the results of out of doors experiments, conducted by scientifically practical men, shall approximate so closely to those in the laboratory, that intelligent farmers shall no longer look with any degree of distrust upon the recommendations of those who devote their entire energies to the study of the branches of science most applicable to agriculture.

SURFACE REASONING.

If your correspondent concludes, from my stating that I had supposed that what he calls surface soil was that which chemists and agriculturists had most to do with, that I also supposed that they had nothing to do with the subsoil, he must have suddenly adopted a very superficial mode of reasoning. Indeed, his changes of position are quite amusing. First, he plunges through "the soil at the surface," as if it were of no account, and stops at an unknown depth to make observations that shall have a bearing upon practical agriculture; but being confronted there, we next find him as much above the common level as he had probably before been below; then quietly acknowledging the reception of instructions never given him, and yet unable to overcome his habit of going to the bottom of things, he plunges again into the subsoil to ascertain what the "surface soil" needs to render it fertile. Here truth may be found between these extremes; for, although it could hardly be said that in the ordinary mode of culture the soil depends to any great extent upon the subsoil for its fertility, yet the productive value of the farm will depend very much upon the character and condition of the subsoil. For this reason our best agriculturists are beginning to work it deeply and examine it thoroughly, some being at the expense of analysis, by which it is sometimes found to contain "all those mineral constituents in which the soil itself is deficient."—(Johnston.)

THE RESTORATIVE.

It is not at all surprising that one who is so much of a conjurer as to be able to discover changes in soils beneath where the soil has been removed, and prescribe for exhausted soils a universal restorative, compounded of so many remedial agents that it shall not fail of supplying "the

deficiencies which are required to constitute a good soil," should be able also " to form a better opinion, by examining the subsoil, what the surface soil needs to fertilize it, than a chemist would be likely to do by analyzing the surface soil." But to the uninitiated in the magic art, the following from the *Family Visitor* may not be uninteresting. It may be found in the *Journal of Agriculture*, Boston, July 2d, 1851, p. 21: " Science cannot long be despised as the mere speculations of theorists, but must be considered, by all ranks of men, in its true point of view—as the refinement of common sense, guided by experience, gradually substituting sound and rational principle for vague, popular prejudices. If land be comparatively unproductive, the sure method of determining the cause is—first, to ascertain the extra nature and relative qualities of the ingredients of the soil, (which can only be done by chemical analysis,) and then to supply the soil with the deficient materials requisite for the growth of such vegetables as it is best fitted to produce. The preparation of compost will only be of real use when materials which do not afford, singly, an efficient or convenient manure, are made to do so by their mixture. Every farmer has it in his power so to compound the best from his store of manuring materials, that the defects of his soil may not only be remedied, but that the crops may receive those substances in sufficient quantity which are required for their vigorous growth. To do this, however, it is requisite to know, not only the component parts of the soil, but also those of the crops. If these are not taken into the account, no clear idea of the composition, much less of the action of manures, will ever be obtained; and many substances of real value will be tried, and, from misapplication, tend to useless if not injurious results." One word more, and I leave this; a man with whom I was at work the other day in the hay-field, and conversing upon the subject of experimental farming, suggested the following query: viz., If Mr. Silas Brown can ascertain, by examining the subsoil, what are "the deficiencies which are required to constitute " the " surface soil " a good one, can he also, by the same process, determine the presence and relative quantities of those mineral substances, which, when existing in excess, render a soil " productive of abundant barrenness."

THE PROPER APPLICATION.

In his first communication on experimental farming, your correspondent asserts that " all farmers know that clay with sand will improve the soil," and leaves the novice in agricultural pursuits to refer back to a letter of Prof. Mapes, on page 71 mo. *Farmer* for February, to learn the why and wherefore; and in his experimental farming, again he goes still deeper into the matter, and says, "experience has taught us that clay applied to the surface of a quicksand subsoil was a proper application; but how he is going to reconcile the remark that " no experienced farmer would apply it to an argillaceous foundation," with his recommendation of a " compound of every substance, vegetable and mineral, which would have a tendency to benefit any kind of soil," is one of the things which " I have yet to learn."

THE PROBLEM.

With my small capability of entering deeply into important subjects, I have but little hope of attaining the exalted position in society which my friend B. holds up to view as an inducement to attempt the solution of his ingenious problem in relation to increasing the productiveness of ground by analyzing it; yet " I believe " that if the " soil at the surface " be carefully *removed*, and the soil be thoroughly dug to a depth of several feet and carefully examined, and a fair average sample selected for the chemist's use, which shall not represent the ground as deficient of any element of fertility, which, however absent from one place, may abound but a short distance therefrom, and the " surface soil," after the analysis is performed, returned to its former position and properly cultivated, the subsequent crop, of whatever kind it may be, will be of far more luxuriant growth than it would have been had no such analysis been performed.

THE DICTATORSHIP.

Farmers should not " be governed by the dictation of chemists of doubtful skill," neither should they rely entirely upon their own experiments, but should know enough of chemistry to understand the rationale of what is recommended, and be able to carry out an experiment in exact accordance with the directions given. Here let me bring in a few more testimonials, from Prof. Norton and others; and let those who prate of the " need of the *creation or perfection of science for agriculture*," as well as those who deem it a " difficulty approaching an impossibility that the best practical chemist can give directions to the farmer how to prepare his manures to suit his different kinds of soils, and fit them to produce different kinds of crops with any precision," whilst they recommend an indescribable compound of an almost endless variety of substances, cease henceforth to use the writings, or even the name of Prof. J. P. Norton, for the purpose of establishing their own retrograde theories. Elements of Scientific Agriculture, pp. 185, 187, &c.: " The farmer can annihilate nothing; he can only change the form of his materials; every study which will enable him to do this according to his wish, should be pursued eagerly and perseveringly. In order to know what is in a soil, and to determine what are the quantities of its constituents, an intimate acquaintance is necessary not only with the substances themselves, in their almost endless relations and changes, but with great numbers of other substances from which they must be distinguished, and with which they are likely to be confounded by an inexperienced person. Uninstructed persons must constantly be making mistakes of the most flagrant description. The worst difficulty of all is, that in many cases, not having knowledge enough to know when they have gone astray, they actually rely upon their own work as trustworthy, and lead others to do so too. The farmer who knows little or nothing of even chemical names, perhaps is not competent to judge of a good analysis; he cannot tell the difference between a pretender to scientific knowledge and one who really knows something that is true and valuable. He takes these erroneous analyses as his guide, and probably falls at once into some serious mistake, by attempting to alter the supposed constitution of his soil. After he has been disappointed in this way a few times, he is very apt to condemn all scientific agriculture as ridiculous, and of no avail for any practical purpose. What I wish to im-

press in this connection is the necessity of caution in coming to such a decision. There is truth in science, but it is not every one who can draw it out; and the proper course in cases of an unsatisfactory nature is to distrust the *man* and not the general principles." In a late No. of *The Working Farmer*, in an article on "Chemistry as applied to Agriculture," Prof. Mapes says: "Within the last few months a new set of objectors to Chemistry, as applied to Agriculture, seem to have arisen. The style of their objections is truly original; for they first admit that chemistry may be useful to agriculture when better understood, but that analysis cannot be depended upon as a guide for the amendment of soil; that farmers had better trust to experience than to science, &c.

* * * * *

We know hundreds of instances where farmers have applied in proper quantities and at less expense than the usual style of application, the missing ingredients to their soil ascertained by analysis, and in every case with increased profit in results. We also assert that a fair knowledge of Chemistry and Natural Philosophy, such as may be obtained by means entirely practicable and within the reach of every intelligent farmer, will enable him, with an analysis of his soil before him, to know not only what it requires to render it fertile, but also the means by which these requirements may be most economically furnished to the soil. It is too late in the day for an argument to be maintained that facts are to be arrived at by guessing more readily than by scientific research. Let those who would war with us on this subject, bring forward their facts instead of their satire, and we are ready to meet them. "In the *Cultivator*, (Albany) April, 1850, p. 232, is a little extract from Prof. Liebig's *Familiar letters on Chemistry*, which reads as follows: "If a farmer, without the guidance of just scientific principles, is trying experiments to render a field fertile for a plant which it will not otherwise bear, his prospect of success is very small. Thousands of farmers try such experiments in various directions, the result of which is a mass of practical experience, forming a method of cultivation which accomplishes the desired end, for certain places; but the same method frequently does not succeed—it indeed ceases to be applicable to a second or third place in the immediate neighborhood. How large a capital, and how much power, are wasted in these experiments! Very different, and far more secure, is the path indicated by SCIENCE; it exposes us to no danger of failing, but on the contrary, it furnishes us with every guaranty of success."

In the *Cultivator* for Aug. 1850, p. 260, is a "Letter from Prof. Norton, No. 8," a part of which reads thus:—"I am convinced that practical men will remain in the dark on many of the most important points of agriculture, so long as they despise the aid of chemistry, and persist in solving inquiries connected with agriculture, by blind experimentizing; by experiments I mean made without plan, or anything clearly defined or distinctly understood. If those engaged in such *random trials* would bear in mind that nature does not give a precise answer to an indistinct question; and if they would be candid enough to believe, in all cases in which an experiment has failed to answer their expectations, that the experiment itself, or the anticipated result, must be false in principle, and that consequently the fault is their own, and not on the part of nature—a great deal of good would be effected. Unfortunately, however, most men are as quick in condemning the value of materials used in a bungling experiment, as they are eager to praise and enthusiastic in reccommending every result when the experiment proves favorable to their views; and when such an experimenter has some kind of theoretical notion in his head with which the experiment can be *made* to tally, the case is still worse. In this way a great deal of harm has been done, and the progress of scientific agriculture retarded instead of advanced, (*Dr. Voelcker.*) There is much of sound practical sense in the above remarks, and every person who has studied over the numerous unprofitable and wearisome discussions, which fill up many of our agricultural papers, will fully appreciate it."

PRACTICAL DEMONSTRATIONS.

But why does Mr. B. hope that J. will engage in the practical analysis of his soil, &c.! In my criticism of his experimental farming, I gave a specimen of the numerous practical demonstrations already made, accompanied by the name of a chemist whose writings and sayings are copied into almost every agricultural journal that has lately come in my way, but he coolly suggests that the successful result is probably attributable to other cause than that indicated, and acknowledges "little faith in reports of that kind where no responsible names are given." Of what use then can it be for J. of Bridgewater, away up among the Green Mountains, to attempt to make practical demonstrations thereby to *enlighten* those who though

"Convinced against their will,
Are of the same opinion still."

CONCLUSION.

If your correspondent will now bring forward his figures and responsible names, illustrating the results of our best practical chemists, they shall be duly considered; and I will endeavor to hold myself in readiness to satisfy him, that there are a few pages more of the writings of Prof. Norton, and others, which are not copied into this lenghtened communication.

THE REVIEW.

One word more. Your reviewer in noticing my criticism says: "in relation to the writer's idea of the *soil*, I will remark that in digging my barn-cellar we came upon a stratum of gravel about two inches thick, and nearly two feet below the surface. Now, this same strata, or layer, crops out and becomes soil,—all there is of soil,—[!] some six or eight rods from the barn." It may be possible that the quick-sand and clay gravel encountered in digging his friend B.'s wells crops out somewhere and *becomes soil* but that either should be called *soil*, or any other earthy matter at a depth of two feet, as at any depth below where the "soil at the surface" had lately been removed, should be called *soil*, was unknown to me till within the present year. In Prof. Johnson's Lec. XI, § 4, he tells us: "In a mass of loose matter of considerable depth, spread over an extent of country, it is easy to understand how, even though originally alike through its whole mass, a few inches at the surface should gradually acquire different physical and chemical characters from the rest, and how there should gradually be established im-

portant agricultural distinctions between the first twelve or fifteen inches (the soil) the next fifteen (the subsoil) and the remaining body of the mass, which, lying still lower, does not come under the observation of the practical agriculturist. Thus the character of the *soil* is that it contains more brown organic, chiefly vegetable matter, in a state of decay—of the *subsoil*, that the organic matter is less in quantity and has entered it chiefly in a soluble state, and that earthy matters are present in it which have been washed out of the superior soil." So much for "A Reader." J.

Bridgewater, Vt., Aug. 23, 1853.

REMARKS.—We dislike long articles, and are well satisfied that most of our readers do. The whole of our correspondent's long communication is given in deference to his wishes, but with the belief that if it had been judiciously divided, it would have hundreds of readers where now it will only find tens. With one or two exceptions, no one has expressed a desire to see long articles in these columns.

For the New England Farmer.

THE SEASON, &C., IN CANADA WEST.

MR. BROWN:—In this section of the country a very severe drought has prevailed during the summer. In the last three months there has not been rain enough to wet potatoes in the hill, consequently the crop will be small. There will also be a light crop of corn and spring grain; winter grain is good.

There will be a fair crop of apples, though not so many as the last year. Pears are quite plenty; mostly native varieties, but many of them are of good quality. One thing deserves to be noticed; the apple-worm, it is said, has *never been found here*. Fruit is fair and sound, and one can eat it without taking animal food with it.

Cherry trees have for several years been infested with an insect resembling a snail. It is of a dark green color, and feeds upon the tender portion of the leaf. In a short time the foliage is changed to a reddish-brown, the leaves resemble small nets, and the fruit entirely fails, or does not ripen well. They usually commence operations soon after the fruit sets. They also attack currant bushes. Please inform what this insect is, and what will prevent its ravages.

A small "*black bug*" did great damage to cabbage plants early in the season, and lately *lice* are troublesome. What will destroy them? Answers may be of service next year. L. VARNEY.

Bloomfield, C.W., 8 *Mo.* 31*st*, 1853.

SEVENTY SWARMS OF BEES AT WAR.—Ezra Dibble, a well known citizen of this town, and for many years engaged extensively in the management of bees, communicates to us the following interesting particulars of a battle among his bees:

He has seventy swarms of bees, about equally divided on the east and west sides of his house. On Sunday, August 14th, about 3 o'clock, the weather being warm, and the windows open, his house was suddenly filled with bees, which forced the family to flee at once to the neighbors. Mr. D., after getting well protected against his assailants, proceeded to take a survey, and, if possible, learn the cause which had disturbed them. The seventy swarms appeared to be out, and those on one side of the house were arrayed in battle against those on the other side, and such a battle was perhaps never before witnessed.

They filled the air, covering a space of more than one acre of ground, and fought desperately for some three hours—not for "spoils," but for conquest; and while at war no living thing could exist in the vicinity. They stung a large flock of Shanghae chickens, nearly all of which died, and persons passing along the roadside were obliged to make haste to avoid their sting. A little after six o'clock quiet was restored, and the living bees returned to their hives, leaving the slain literally covering the ground, since which few have appeared around the hives, and those apparently stationed as sentinels to watch the enemy. But two young swarms were entirely destroyed, and aside from the terrible slaughter of bees, little other injury was done. Neither party was victorious, and they only ceased on the approach of night, and from utter prostration. The occasion of this strange warring among the bees is not easily accounted for; and those most conversant with their management never before witnessed or heard of such a spectacle as here narrated.—*Conneaut (Ohio) Reporter*.

WINTER WHEAT.

There should be no delay in getting in this important crop, where it has not already been done. The Winter Blue Stem is a fine variety, and yields well in any land which will produce a good corn crop. The quantity of seed per acre may be varied according to the condition of the land; if in fine "heart," a much less quantity will answer than if the soil is thin and poor. We have just secured a crop of MILLET, where only *eight quarts of seed* per acre were sowed, although some of the books, and some of the farmers, recommended *sixteen* quarts. On two acres, good judges estimated that there were five tons of the dried crop. What there would have been, if the larger amount of seed had been sown, we can scarcely conjecture.

On good land we should not sow more than one and a half bushels of wheat; perhaps even less than that. We hope ere long to see DRILLING MACHINES in use in getting in all our grain crops.

SPARE THE BIRDS.—On no pretext whatever, should farmers or gardeners permit their birds to be disturbed. Instead of killing them or frightening them away, they should make use of every means in their power to induce them to increase in number, and become more tame and familiar. The worst of them earn twenty times what they eat; and then, what exquisite pleasure, to have your garden, yard, orchard, or wood, alive and vocal with the music of merry birds. Plant trees for them, build houses if necessary for them, and let no cat, dog, or boy ever molest them, and they will teach you lessons of domestic bliss—preach you sermons—and warble you such hymns as you never heard elsewhere. Be kind to your birds.—*Ohio Farmer*.

For the New England Farmer.

AGRIGULTURAL SOCIETIES.—NO. 3.

MIDDLESEX AGRICULTURAL SOCIETY.

This time-honored Society, the oldest in the State, held its fifty-eighth anniversary on the 6th of October. The day was one of those fine October days which are the glory of our New England climate, and all the circumstances connected with the occasion were of the most agreeable character. The Report is, in one respect at least, the model report of the volume. It is condensed into the reasonable space of forty pages. The several committees, in making their reports, have not availed themselves of the occasion to give their opinions upon matters and things in general, nor to indulge in philosophical speculations, calculated rather to exhibit their own learning than to set forth facts that will be useful to their brother farmers. Their reports consist of facts belonging to the several subjects referred to them. If we should make any exception to this general remark, it would be in relation to the report upon apples and pears, and the report upon stock, each of which might be reduced about one-half without material detriment.

The report upon farms, &c., is of a highly interesting character. The practice of propounding a series of questions to the successful competitors for premiums, although attended with a good deal of labor on the part of the Secretary, Simon Brown, Esq., by whom they, as well as the whole report, were arranged, brings out the opinions and experience of enterprising, thinking and successful men, upon a variety of important practical points. We should be glad to see the practice adopted throughout the State.

We have been much interested in the remarks of the committee upon the farm of Mr. Hildreth, and especially in Mr. Hildreth's own statement. It is a straight-forward, plain statement, showing what the will and industry of a Yankee can accomplish. His land is now remunerating him richly for his persevering labor, and in a few years more he will be the owner of a beautiful farm, worth at least ten thousand dollars, its produce increasing annually in value, while the labor of cultivating it is growing less and less. If any men in the country have the prospect of an independent old age, and of leaving a good inheritance to their children, both in material value and in their own noble example, it is such men as L. H. Hildreth.

The results which Mr. J. D. Brown has accomplished, show that he has a head to plan and a hand to execute. He is remarkable for his energy and enterprise. He has developed in large measure the faculty of *go-aheaditiveness*, and the effects are showing themselves all around him. We fear it may be inferred from the statements that the work done upon the farm has all been paid for from its products; whereas, those who know the extensive business, other than farming, in which he is engaged, can readily imagine where the means have come from by which so much has been accomplished. We would by no means insinuate that it was intended that the above inference should be made. But we think that justice to other farmers requires that the intimation should be made. Mr. B. deserves the highest credit for what he has accomplished. Much of his farm consisted of rocky, bushy pasture and boggy swamp. The twelve hundred bushels of corn which he raised last year, and the more than twenty acres of luxuriant oats which he has mowed the present year, show what may be produced upon such land by perseverance. His fine barns, his noble stock of 60 cows, his long ranges of walls, his net-work of deep drains, all speak loudly of enterprise and success.

We have been much interested in the remarks of the venerable Buckingham, and most heartily commend them to every man in Massachusetts who has only a small patch of land. They show what a little land may be made to produce, when the tillage is adapted to the soil.

We should infer, from the uniform success that attends every attempt to make a fine garden in Cambridge, and indeed everywhere in the vicinity of the metropolis of the State, that gardens are of a social character, and that their productions are more willing to thrive in neighborhoods where good gardens abound, than in those where they are alone in their beauty. We hope no one will be discouraged by this remark from making the attempt to produce a fine garden wherever he may be located, but be led the rather to persuade his neighbors to join him in the same enterprise.

The show of fruits was very fine, and proved that Middlesex is behind no other county in the State in this branch of culture.

There were many fine specimens of stock on the ground, both of native and foreign blood. We suppose no towns in the State can exhibit finer milch cows than those towns in Middlesex that raise milk for the market. But we have no space to discuss this subject, and must refer to our remarks on the Report of the Massachusetts Society, in our first number.

The great feature of the day was the plowing match. Some forty teams were entered for the premiums; and we know not that we have ever seen a more beautiful spectacle than they presented, each moving in its own orbit, doing its own work independently, steadily, quietly, and apparently unconscious that any other team was in the field. The order was perfect, and the work most perfectly done. The Marshal of the day did himself credit. Indeed, in our view, the Colonel never appeared so well at the head of his regiment as in directing the movements of his brother farmers upon this well contested field.

The only thing to be regretted during the day was the want of time to be appropriated to the several departments of the exhibition. We perceive that this is to be obviated the coming year by taking two days for the festival. We trust the exhibition, which is soon to take place, will be in every department, worthy of the efforts which the government of the Society have made during the past year to promote its prosperity and usefulness. It is sufficient to say of the address that it was delivered by Hon. L. V. Bell, and was of course characterized by sound learning, important thoughts and practical common sense. J. R.

Concord, Sept. 5th, 1853.

Something for Farmers.—We saw, yesterday, the model of a machine for cutting corn in the stalk. It is partially upon the principle of Mr. McCormick's reaping machine, and is designed to cut two rows of corn at a time. Between two wheels there is an axle, to each end of which is

attached a knife for cutting each row of corn. To the axle is also attached shafts for the horse which pulls the machine. The horse walks between the rows of corn, and the knife just on the inside of each wheel cuts the corn, which falls on a bed or place to catch it, in a manner resembling the operations of a wheat reaper. The bed which catches the corn, opens in the centre at the pleasure of the operator to discharge the corn in bundles. We are informed that with one man and a horse the machine will cut 20 acres of corn per day. It is the invention of a citizen of Illinois.—*Rich. Enquirer.*

THE SEASONS.

FROM THE GERMAN.

Hay and corn and buds and flowers,
Snow and ice and fruit and wine—
Suns and seasons, sleets and showers,
Bring, in turn, these gifts divine.
Spring blows, Summer glows,
Autumn reaps, Winter keeps;
Spring prepares, Summer provides,
Autumn hoards and Winter hides.
Come, then, friends, their praises sound;
Summer, Autumn, Winter, Spring,
As they run their yearly round,
Each in turn with gladness sing!
Time drops blessings as he flies—
Time makes ripe and Time makes wise.

For the New England Farmer.

CRANBERRIES.

Mr. Brown:—Dear Sir,—Although I am a stranger to you, I wish to propound a few questions on the growth of cranberries. I have fitted about 2½ acres of upland, which I intend to set with cranberries. The soil is rather of a loam, and one part is more moist than the other. When I commenced, the land was covered with large breaks, what is called with us "negro heads." I commenced in 1852, with plowing it with two yoke of oxen; did not get at the soil the first plowing; got all the break roots we could, let it dry until last of August, then dragged it and went to carting off the negro heads. The next process was to dig the stone and build the wall. I found so many stone that I was compelled to build a very large wall—a part of it is 7 feet wide on the top. The ground was so wet in the spring I could not finish it until June. It was then too late to set the cranberry roots, and I sowed it with oats and have got a good crop. It has cost me about three hundred dollars up to this time; and now I wish to get the best information that I can how to set over this ground; where I can get the best fruit, and also whether meadow roots are as good as upland; how far apart they ought to be set, and all the necessary information pertaining thereto. Spencer Root.

Haydenville, Aug. 24th, 1853.

Remarks.—In an operation of so much consequence as the one you describe, it is important to proceed *in the right way* at each step. Our own experience in the culture of upland cranberries has not been sufficient to afford reliable data for the guidance of others. We have found only one difficulty in growing cranberries on upland, and that is the prevalence of weeds; in extirpating these, the runners are started at each weeding, and the vines are thus prevented from running and covering the ground. A thick setting would, therefore, seem advisable—the thicker the better, if as close as within six inches of each other. There is a great difference in the size and flavor of the fruit growing in different meadows. The oblong fruit is much the best. Cranberry culture is as well understood perhaps in the town of Sherburn as any where in the State, and before setting your plants it would be well for you to talk with some of the cultivators there.

SPONTANEOUS PLANTS.

It is well known to our readers that the marshes on South Boston Bay, between Roxbury and Boston, have been "filled up" within a few years, with gravel brought in railway cars from Quincy. This gravel, or a large portion of it, was taken from a hill, where it had remained undisturbed for many centuries. Yet this large tract of "made land" is now covered with a dense vegetable growth, embracing a great variety of plants, most of them of common varieties, the seeds of which are compact, hard and heavy, and covered with an enamelled shell, all of which would seem to preclude the idea that they could have been wafted from a distance through the atmosphere. How could these plants have originated? Were the seeds deposited in the gravel and soil, many ages ago, and have now germinated on being exposed to the action of the atmosphere and heat? or is there some other process of nature by which vegetation, under certain circumstances, may be produced without any apparent cause?

Indeed, there are few things more extraordinary, or have been a greater puzzle to naturalists, than the appearance and development of certain plants in certain circumstances. It is sometimes the case that when a deep pit or well is dug, the earth is thrown up from a great depth, fifty or a hundred feet, and which has been for many ages buried far beneath the surface of the earth, on exposure to the atmosphere and the heat of the sun, will give forth myriads of plants, of a certain description, and which, perhaps, have not been seen in that vicinity for many years. It is stated on good authority, that after the great fire in London in 1666, the entire surface of the destroyed city was covered with such a profusion of cruciferous plant, the *Sisymbrium Irio* of Linnæus, that it was calculated the whole of Europe did not contain so many plants of it! It is also a well ascertained fact, that if a spring of salt water makes its appearance in a spot, at a great distance from the sea, the neighborhood will soon be covered with plants peculiar to a maritime locality, which plants, previous to this occurrence, were entire strangers to the country!

When a lake happens to dry up, the surface will almost always be soon covered by a vegetation which is peculiar, and entirely different from that which flourished on its former banks. In M. de Brebisson's work on the useful mosses, this botanist states that a pond in the neighborhood of Falain, in France, having been rendered dry during many weeks, in the height of summer, the mud, in drying, was immediately and entirely cov-

ered, to the extent of many square yards, by a minute, compact, green turf, formed of an imperceptible moss, the *Phaseum axillare*, the stalks of which were so close to each other, that upon a square inch of this new soil, might be counted more than five thousand individuals of this minute plant, which had never previously been observed in this country.

These circumstances are singular, and furnish a vast field of speculation for the natural philosopher.—*Boston Journal.*

For the New England Farmer.

MIGRATION OF BIRDS.

Mr. Editor:—I am very glad to see that through the columns of your valuable worthy *Farmer*, there has been aroused a spirit of inquiry upon a subject which involves much interest and deep curiosity in the result; and which is still enshrouded in mystery and doubt; I refer to the "migration of the swallows." The *precise time* of their final departure for the winter months is still a matter of discussion, and one which I hope your observing correspondents will continue to examine and discuss until the subject has received all the testimony necessary to entitle it to a verdict. Much hereditary opinion is still indulged and received, upon such subjects, where facts and truth should be established; and it seems, to my view of the subject that a direct, easy and efficacious way of obtaining this testimony may be accomplished by enlisting the interest and action of careful and attentive observers in different sections of New England, who will faithfully note the first appearance of the swallow in the spring, and *particularly* whether seen singly, in pairs, or in flocks, at what time they build their nests—and be particular in noticing their annual conference, or congregating in mass meeting, as if deliberating upon, and maturing their arrangements preliminary to going into winter quarters—and state definitely the day of the month and the time of the day when last seen in autumn. When these points are clearly elucidated, it will open an interesting field for discussion among naturalists, whether the swallow is in reality a migratory bird, and the evidence which may be elicited from so many sources upon the points above referred to, will furnish some reliable points for argument in examining the last proposition, but as this question is still in reserve, I will forbear any further remarks until this field is opened. With much respect yours, &c.,

Springfield, Sept., 1853. F. B.

Destroying Trees.—A thriving farmer, who had just discovered the loss of a hundred newly transplanted peach trees by the mice, said to the nurseryman who furnished them, "This is a hard loss for *me*, but it will help *you nurserymen!*" A late paper of high character utters a similar opinion, when describing the losses of young trees by bad pruning and other mismanagement—"no wonder that the business of nurserymen is continuous and thriving!" Nothing can be more erroneous. The great increase in the nursery business is owing, not to continued failures by purchasers, but to the improved cultivation which the trees of late years receive, giving promise of a full remuneration for the outlay. How many men would continue to buy and plant trees, only to lose them? How long would farmers continue to raise wheat, if no crop was ever yielded? How many gardiners would patronize the seed stores, if the seedsman should bake and destroy the vitality of all that he sold, as we have heard of being done in certain places in the old world? No man will expend his money without a promise of a return, and it is therefore the nurseryman's highest interest to assist as much as practicable in promoting the successful management of the trees he furnishes.—*The Country Gentleman.*

LIST OF STATE FAIRS IN 1853.

Vermont, Montpelier	September 13, 14, 15.
Kentucky, Lexington	September 13, 14, 15, 16, 17.
New York, Saratoga	September 20, 21, 22, 23.
Ohio, Dayton	September 20, 21, 22, 23.
Pennsylvania, Pittsburgh	September 27, 28, 29, 30.
Michigan, Detroit	September 28, 29, 30.
Wisconsin, Watertown	October 4, 5, 6, 7.
New Hampshire, Manchester	October 5, 6, 7.
Indiana, Lafayette	October 11, 12, 13, 14.
Illinois, Springfield	October 11, 12, 13, 14.
North Carolina, Raleigh	October 18.
Maryland, ———	October 25, 26, 27, 28.
Virginia, Richmond	November 1, 2 3.
Lower Canada	September 27 to 30.
Upper Canada	October 5 to 7.
Southern Central Ag. Society, Augusta, Geo.	Oct. 17 to 20

Agricultural Exhibitions in Massachusetts for 1853.

Worcester County Society	September 21, 22.
Norfolk County Society	September 27, 28.
Essex County Society	September 28, 29.
Housatonic Society	September 28, 29.
Worcester West County Society	September 30.
Bristol County Society	October 4, 5.
Middlesex County Society	October 4, 5.
Berkshire County Society	October 5, 6.
Plymouth County Society	October 6.
Franklin County Society	October 6, 7.
Barnstable County Society	October 7.
Hampshire, Franklin and Hampden Society	Oct. 11, 12.
Hampden County Society	October 13, 14.
Hampshire County Society	October 26.

For the New England Farmer.

CRUELTY TO ANIMALS.

Your June number I think contained useful remarks on *Cruelty to Animals*, and I take the liberty of sending you a copy of a school lesson on that important subject. E. M.

Canada East.

ON CRUELTY TO ANIMALS.

A man of kindness to his beast is kind,
But brutal actions show a brutal mind.
Remember—He who made thee made the brute;
Who gave thee speech and reason, form'd him mute;
He can't complain, but God's all-seeing eye
Beholds thy cruelty—he hears his cry;
He was designed thy servant and thy drudge,
But know—that his Creator is thy Judge!

The Southern Agriculturist.—If the people of South Carolina would take hold and give this paper a list of 20,000 paying subscribers, they would do *themselves* a great service. It is published at Laurensville, and is among the handsomest and best papers we receive.

For the New England Farmer.

THE CROPS IN WASHINGTON COUNTY, R. I.

Mr. Editor:—Sir: I take the liberty to send you an account of the crops harvested, and the prospect of the crops unharvested, in our county. And at the same time I shall occasionally indulge my Yankee propensity by asking you a question.

Grass.—This crop has come in very good generally throughout the county, and that which was secured previous to July 20th was of the first quality. But that which has been cut since that time has (a large portion of it) been wet, and consequently is not so good. The kinds of grass usually cultivated here is clover, timothy, red top and burden.

And now I will inquire (my land being a lightish loam,) what kind of grass seed shall I sow, and how much to the acre, and when?

Indian Corn looks remarkably well. If we do not have any early frosts, or any thing else to destroy it, we shall get a great crop. Which is the most economical way of harvesting this crop when it is not very heavy? Cut the stalks, or cut it up by the ground?

Potatoes have nearly all rotted except the Dovers; they stand it with us the best of any kind.

Oats suffered some from the drought in June, but upon the whole have come in pretty well.

Wheat, *rye* and *barley*, is not cultivated very extensively here. I believe the former not at all; neither is *buckwheat*.

Millet is cultivated some in the northern part of the county, but not generally in the southern. What I have seen of this crop looks well. What kind of land and manure is best adapted to this crop?

Cow Corn is cultivated very extensively for feeding green, and looks very thrifty. Which is the most profitable to seed for fodder, this crop or millet? Yours truly, J. D.

Wakefield, R. I., Aug. 23, 1853.

P. S. *Fruit*, of nearly all kinds, will prove a failure with us.

Swallows left here about the 18th instant.

Carrots and *Onions* have blasted very much. Can you tell me the cause? Yours, J. D.

Remark.—We will answer the above questions next week.

SCHOOLS IN CHINA.

One of the favorite maxims of the Chinese is, "By learning, the sons of the poor become great; without learning the sons of the great are mingled with the common people." The beneficial influence of this maxim is observable in the village schools, which are generally well attended, since it is natural for every father to hope that one of his children at least may distinguish himself by a superior capacity, and thus make his own fortune, as well as that of his family; for as parents are frequently degraded in consequence of the misconduct of a son, so they are often honored and rewarded on account of his virtues.

It is somewhat remarkable, that in a country where the system of instruction is entirely regulated by the laws, and forms so material a part of the constitution, there should be no free schools supported by the government, nor any establishment for education founded by the munificence of those who, in every age, have acquired fame and riches by their literary attainments. The master of a district school is paid at the rate of ten shillings a year for each boy; yet even this small sum cannot very easily be spared by a laboring man, whose wages are not more than fourpence a day; so that many families of the poorer classes send only one son to school, selecting, of course, him who shows the most promising genius.

The boys are incited to industry and good behavior by the hope of prizes, which are distributed at stated periods, and consist of pencils, Indian ink, paper, and little palettes for grinding the ink, which are all much prized by the Chinese, who call them "the four precious materials," and teach the children to keep them in very neat order.

In most of the country villages and in all large cities, there are evening schools for boys who are obliged to work in the day time; for the children of the poor are inured to labor from a very tender age, so that little fellows of five or six years of age may be seen trudging along the roads, with a stick across their shoulders, carrying loads, and they are set to work in the fields almost as soon as they can walk. It is the usual practice, now, for persons of rank and wealth to engage private tutors for their children; but whether the latter are educated at home or at a public school, they must undergo the regular examinations before they are eligible to office, nor are they taught in any way differently from the boys at the village seminaries.—*China, Pictorial, Descriptive and Historical.*

For the New England Farmer.

THE CURCULIO.

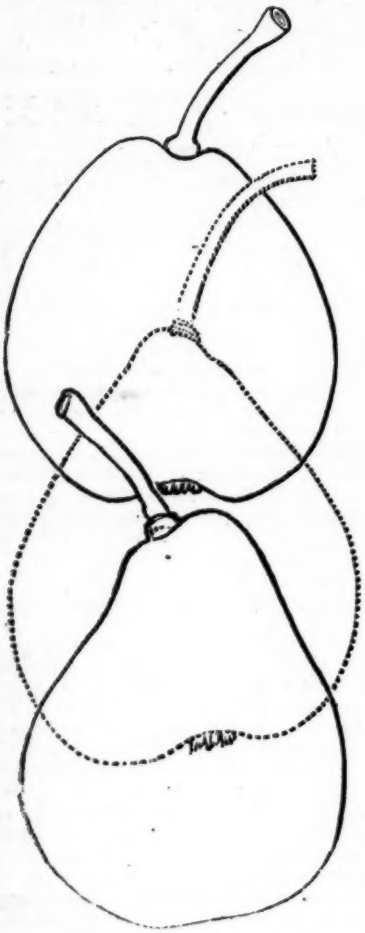
Mr. Editor:—Sir,—I see by your last paper, from extracts from the *Greenfield Republican*, that a writer in that journal has found a remedy for the bite of the curculio. His remedy may be a good one for a man of leisure, but the days and nights are not of sufficient length to warrant its general adoption. I will tell you briefly what I have done for my plum trees. My remedy for the *curculio* is this: as soon as the insect had made his appearance, and the plum had fairly commenced growing, I sprinkled the leaves and plums on the trees all over with *air slacked lime*, selecting a wet morning for the operation, and after that the insects all left. On some trees that had no lime, scarcely a plum was left; on one tree that I put lime on one side, the curculio did not trouble; while on the side that had no lime, the plums were completely destroyed. When the drought came on, I found that my plums failed for the want of moisture; I took a barrel, and made a small hole in the bottom, and placed it on the root of the trees, and then filled it with water, and as often as the water was exhausted I filled it up; and now I shall have a rich crop of plums, and free from the *rot* that prevails in this county; the limb I sent you a few days ago was from one of those, and is a fair specimen. J. Lake.

Topsfield, Sept. 5, 1853.

☞ An earthquake had occurred on the lake shore, near New Orleans, rocking houses and causing great alarm.

THE TYSON PEAR.

The Tyson Pear is not among the most popular of the pears, but is worthy of a place in every fruit garden, where variety is desired. The fruit is of medium size; short pyriform; light yellow, russet patches, red in the sun; stem medial, set on a point; basin broad and shallow; flesh white, melting, very juicy, sweet, with a very delicious aromatic flavor. Latter part of August to first of September. The original tree according to Cole's Fruit Book, is in Jenkinstown, Pa., and is six feet in circumference.



DEARBORN'S SEEDLING.

(DOTTED OUTLINE.)

The illustrations of this fruit by different artists vary a good deal; so much so, as scarcely to preserve the characteristics common to almost every variety. Mr. Cole was a careful observer of fruits, and living in the neighborhood where this pear originated, and having cultivated and tested it, we think his description of it entitled to full credit. He says it is small; turbinate; stem an inch long, in a slight cavity; shallow basin; very smooth, yellow, minute dots, a little russet around the stem; flesh white, juicy, melting, of a sweet, sprightly flavor. Ripe August 20 to September 10. Originated by Gen. H. A. S. Dearborn, Roxbury, Mass. Downing says it bears most abundant crops in every soil, and is one of the most desirable early varieties, succeeding the Bloodgood, and preceding the Bartlett. The young shoots are of a long, dark brown color.

THE OSBORN PEAR.

Rather small; obtuse pyriform; bright yellow, with brownish specks; stem stout, obliquely set; calyx small, slightly sunk; flesh white, tender, melting, juicy, of a sweet, lively, aromatic flavor, with slight astringency. Aug. at Cincinnati. Vigorous. Originated by Mr. John Osborn, Economy, Ia. Ranked among the best early pears, and Ernst thinks that it will sustain this character, but he has fruited it only one year.

For the New England Farmer.

LONG WHEAT HEADS.

Mr. Editor:—Among all the accounts of large things which I have ever read, I do not remember of ever having seen an account of large (or long) wheat heads. I have just shelled a head of wheat which contained 60 kernels of good wheat. I think I could pick out many such heads from the wheat I have raised this year. Why not get from forty to sixty bushels from an acre, provided we do not go over too much ground?

Yours truly, A. S.

Freedom, Me., Aug. 23, 1853.

National Exhibition of Horses.—The great favor with which the suggestion of an exhibition of horses at Springfield has been received by the public, has induced the organization of an association in that city, for the purpose of making arrangements for a display of imported blood and American breeds of horses next month. Hon. George Dwight has been elected President of the Board of Managers, James M. Thompson Vice President, and William Stowe, Corresponding Secretary. The managers of the exhibition have adopted rules and regulations, and published a list of premiums offered, which range from $20 to $200. The exhibition will be held at Government Square, Springfield, from Wednesday, October 19th, to Saturday, October 22d.

We recognize in the list of Managers the names of some of the most enterprising and public spirited citizens of Western Massachusetts, and we have no doubt the exhibition will be one of the most successful affairs which has originated in this section of the country.—*Transcript.*

☞ Hon. N. P. Banks, Jr., of Waltham, has accepted the invitation of the Barnstable County Agricultural Society, to deliver the address before the Society at their annual cattle show and fair, on the 7th of October.

HINESBURGH "IMPERISHABLE POTATO" FACTORY.

We heard sometime since that there was established in this vicinity, at Hinesburgh, a factory for putting into a very portable and almost imperishable form the edible substance of potatoes, without injury to its qualities as an article of food.—From the importance of such an operation to the agricultural operations of this State, the report excited a lively interest in our mind, and we set ourselves without delay to ascertain the character of the process, and to see how far it was deserving of special attention.

We will give our readers an account of the operation, and of what was produced by it. If their opinion does not coincide with our own, that the subject is of great consequence to this State, capable as it is, of producing for use and manufacture, potatoes of best quality to an almost unlimited amount, we shall be disappointed.

Taking the hint perhaps from the preservation of tea, mosses, &c., by drying, some years ago experimenters found out that our common vegetables, such as cabbages, turnips, carrots and potatoes, might be taken fresh, thoroughly dried so promptly as to allow of no incipient fermentation, and pressed and packed in tight vessels so as to exclude moisture; and in that state kept for long periods. For use, it was only necessary to soak them properly in fresh water, when they would recover their full bulk, and on cooking, be found to differ very slightly indeed from others which were fresh. Here was an important discovery. The expense was small—the reduction of bulk enormous, (a thing of great consequence for shipping and travellers) and the preservation was complete. Government commissioners in Europe examined the processes, and tested and approved the result; and at once the preparations came into use under their sanction. The application of this method to potatoes at the Hinesburgh factory is substantially as follows. Being thoroughly cleansed, deprived of skins and properly prepared, fresh currents of air are moved in contact with the potato pulp by machinery. The air rapidly takes up and carries off the moisture. The material is made to take the shape of tubes, (maccaroni fashion,) and when perfectly dry, is broken in a proper mill into the form of what is called "samp" or "hominy." Indeed it might be easily mistaken for that article made from our common yellow Indian corn. By the process, it has lost nothing but *water*. But by that loss it is made to occupy but *one-sixth* of its original bulk, and what before weighed *four pounds*, now weighs but *one pound*. In that condition it can be packed in tight cases or in tin canisters, and be transported just as easily as so much dry ice. Years of trial have proved the unchanging character of the preparation.

Now then for the use. For *one* pound of it take *three* pounds of boiling water, or (to speak cookery-book fashion,) put a *tea cup full* of it into *four tea cups full* of boiling hot water. In ten minutes the water is entirely absorbed, and the result is a *well cooked dish of mashed potatoes*, ready to be salted and buttered, or dealt with, as a like dish made from fresh potatoes, might be. The taste differs slightly from that of fresh potatoes prepared in the same manner. We speak advisedly, for we have *tried it*. Though we think any one would prefer to crush for himself a fresh mealy potato, if he were in a condition to choose, we have often, within the last five years, had to be content with using potatoes not a whit better than we are speaking of,—hardly as good even.

It is difficult to comprehend at once the great importance of such preparation of the potato. To a very large portion of the human family, the potato is an article of prime necessity for daily food. All who have been accustomed to use it, feel the deprivation severely if placed beyond its reach for any considerable time. Yet the bulkiness and perishable nature of the tuber in its natural condition, make its transportation for great distances by either land or sea an impossibility. For the want of it the health of crews on long voyages, and of soldiers or other persons occupied away from where it can be procured, is often greatly injured. In some districts too, where it is relied upon as the chief article of food, great distress is caused by the failure of a crop, because the want cannot be supplied except at very considerable expense. Let the preparation of this "imperishable potato" be made common, and all these evils are substantially done away with. Government ships, whaling vessels, merchant ships, will make it a regular part of their stores. It will not occupy near the room of ship biscuit, and can be kept in store with less risk of spoiling. We are informed that European vessels already make it regularly a part of their stores, when going on voyages across tropics,—and that the discovery ships under charge of Dr. Kane, are supplied with it. Travellers across the continent, and inhabitants of those parts of our own country where the vegetable cannot be raised successfully, must eventually find the prepared article a most convenient one for use.

Few persons have any conception of the amount of nutritive food which can be raised in the form of potatoes, where the soil and climate are favorable. Though, pound for pound, less nutritious than wheat or rye, as a whole, no other crop can equal it. Careful experiments have shown that from the same amount of suitable ground where there could be raised, on the average, 3400 lbs. of wheat, or 2200 lbs. peas, there could be raised 38,000 lbs. potatoes; or, reducing them all to the absolutely dry state, for 3036 lbs. of wheat, 2080 lbs. of peas, there would be 9500 lbs. of potato,—more than three times the amount of food produced in the shape of wheat, and more than four times that in the form of peas. We quote this statement from the Chemical Technology of Dr. Knapp, of Giessen,—a recent work of very great authority. The practical results of some experimentalists on the feeding of cattle with these different articles, place the relative value of the potato at a higher mark still.

For many years the potato crop has been a very important one in Vermont, not barely for its extensive use at home for food for man and beast, but because it has been largely worked up in the starch factories. With a great many farmers of small means it has been a chief reliance wherewith to obtain cash in hand by its sale. Since the railroads were built, great quantities have gone to market in a fresh condition at highly remunerative rates to the producer. The terrors of the potato rot have in a great measure passed by; and the production can be, and will be greatly increased, if the article we are considering shall come into a wide use, as we think it must, for

commercial purposes. We learn that the factory at Hinesburgh is in active operation, and with abundant orders from the sea-board. We wish its owners success, and look to see, ere long, "Brinsden's Imperishable Potato" spoken of as one of our large articles of export.—*Burlington Free Press.*

THE HAPPY FARMER.

BY MRS. L. H. SIGOURNEY.

Saw ye the farmer at his plow
As you were riding by?
Or, wearied 'neath his noon-day toil,
When summer suns were high?
And thought you that his lot was hard?
And did you thank your God,
That you and yours were not condemn'd
Thus like a slave to plod?

Come, see him at his harvest home,
When garden, field, and tree,
Conspire, with flowing stores to fill
His barn and granary.
His healthful children gaily sport
Amid the new-mown hay,
Or proudly aid with vigorous arm,
His tasks, as best they may.

The dog partakes his master's joy,
And guards the loaded wain,
The feathery people clap their wings,
And lead their youngling train.
Perchance the hoary grandsire's eye
The glowing scene surveys,
And breathes a blessing on his race,
Or guides their evening praise.

The Harvest Giver is their friend,
The maker of the soil,
And earth, the Mother, gives them bread
And cheers their patient toil.
Come, join them round their wint'ry hearth,
Their heartfelt pleasures see,
And you can better judge how blest
The farmer's life may be.

For the New England Farmer.

VERMONT STATE FAIR.

My Dear Brown:—I left Lowell at half-past eight this morning, in the V. C. train, and came on through Nashua, Manchester and Concord and followed up the valley of the Merrimac and along the southern and western base of the Kearsarge, to Enfield. Then leaving the Merrimac, we followed the serpentine Mascoma, a small stream, but so crooked that we cross it fourteen times in six miles. This stream rises in Enfield pond. At Danbury we stopped about eight minutes to lunch. From that place we jogged along, taking up and setting down ten cent passengers, after the manner of an old-fashioned stage coach.—This train above Concord is truly an accommodation train. We lost half an hour at Concord, and an hour and a-half from there to Montpelier, where we arrived a quarter past 6 o'clock. Just two hours after the train was due. After leaving the Mascoma, we soon struck the White river, the valley of which we followed to the Connecticut, which we crossed at West Lebanon into Hartford. On crossing the Connecticut, the soil at once assumes a new character. We are no longer in the Granite State. Rocky Mountains and ledges of granite are no longer seen. Abrupt hills, capable of tillage to their very summits, and beautiful valleys teeming with verdure take their places: Slate stone and banks of clay show themselves upon the borders of the stream. I noticed, as I passed along through the upper part of New Hampshire and in Vermont, that the farmers are cutting up the corn at the ground and shocking it in the field, where it is left to ripen. They do not cut the stalks as we do in Mass.

The corn is just beginning to turn. It is not as forward by some two weeks as that in the vicinity of Boston. There is said to be a good crop on the ground. On reaching Montpelier, I found the hotels and boarding houses crowded to overflowing. But I reported myself at head quarters, and received every attention that I could desire. I find the citizens very polite and attentive. The show ground is at the east end of the street, upon a beautiful elevation. The most perfect arrangements have been made at an expense of some thousands of dollars. A range of open sheds has been erected for the exhibition of vegetables, agricultural implements, the products of art, butter, cheese, wool, &c. A beautiful arena has been enclosed, and a splendid trotting course prepared, and an extensive scaffolding erected for the accommodation of spectators, not indeed equal to the amphitheatre of Trajan, but the largest and most convenient structure of the kind which has ever been got up in New England, for a similar occasion. It is designed to seat 3000. A lofty flagstaff stands in the centre of the arena, from which floats the star spangled banner. An abundant supply of water is provided on the arena, with a beautiful fountain. Flags ornament the several sheds and indicate that this is the great gala day among the Green Mountain boys.

Wednesday 14th.—The people began to assemble on the ground soon after 8 o'clock. At 9 the officers and committees appeared, and the services of the day commenced. I first visited the floral hall where the flowers and fruits and fancy articles were exhibited. A fine car of millinery and a beautiful case of silver ware attracted notice.—Some fine harnesses drew the young horesmen around them. The exhibition of fruits was much below my expectation. It by no means did justice to the State; indeed, there seemed to be but very little interest taken in the subject. I understand there are a good many apples in the northern part of the State this year.

The show of Devon stock was very good. Some very fine animals of this breed were on the ground. This seems to be the favorite stock just at this time; they are considered quite equal as dairy stock to the Durhams, and are said to take fat more readily. Then there were two or three fine Durhams and a few Herefords. There were many fine specimens of French Merinos on the ground, and a few Spanish. I saw no other breeds worthy of notice; the great feature of the day was the exhibition of horses. There were several families of them, arranged in separate classes, with a committee to each class. There were 35 Sherman Morgans, 4 Bulrush Morgans, 5 Messengers, 17 pairs of matched horses, 20 Geldings and Mares, and 11 foreign horses, making 128 horses, besides breeding mares and colts.

There were many splendid animals; at the national exhibition which is to come off at Springfield, they must look out for their laurels. The Vermonters mean to take a full share of the prizes.

The show of agricultural implements was not large. There were Robinson's Montpelier plows, and Taylor's Bristol plows. But *the* plows were those of Ruggles, Nourse and Mason. There were 20 of these plows on the ground. There were two of the best horse powers which I have seen, and decidedly the best hay and corn cutter which Yankee ingenuity has invented. This is the invention of Daniels, and manufactured at Woodstock. The price is very high, $18. I am certain it may be sold profitably for $12. When it is sold for $10 or $12, it must take the place of all others as a corn cutter. It cuts corn butts from half an inch to 2 inches in length. Corn, cut more than from one to two inches in length, may as well not be cut at all. The use of corn for fodder is increasing, and if the proprietors will not be too grasping, they will sell an immense number, and make more money in the end.

The oration was set down in the bill for 2 o'clock, but they acted on the principle that it is two till it is three. At three the orator took the stand, and a large assembly collected upon seats arranged upon a natural amphitheatre. But the clouds threatened rain, and in the course of 15 minutes the rain began to fall, and the audience began to scatter, and in about 30 minutes, Dr. Wheeler closed his beautiful and well written address.

I will give you in few words some of its leading thoughts. He began by paying a beautiful tribute to the late Governor Paine, who recently died in Texas on his way home to his native State. He then imagined an assembly in ancient days, in Egypt, Greece or Rome, and inquired what appearance it would have presented, and what would have been the condition of its masses, and compared that condition with that of the assembly before him. He then proposed his subject—the relation of agriculture to the growth and prosperity of the State. The spirit of traffic is cosmopolite, but the tiller of the soil becomes attached to his home. He does not buy his farm as so much stock in trade, but to build a home for himself and family; and here he builds a school-house in which to educate his children, and a church in which to worship God. The outward condition of the humanity of the commonwealth depends upon the soil, and its ultimate strength and security are derived from it—agriculture is the power at home, which controls and modifies our internal institutions. The home life of the farmer is the ground-work of our character—civil and domestic. The soil is held directly or indirectly from the State. Its possessors do not hold it for themseves alone; personal property may vanish, but real estate remains for the life and security of the State. The landed tenures of England constitute the strength of the State. The landed tenures of our State are the pillar of its strength; as agriculture flourishes, so will the State. We must be influenced by patriotism as well as by other motives, to promote the advancement of agriculture. The most intelligent and cultivated men in Europe and in this country, have ever been interested in agriculture, and lent their influence to its promotion. These are a few of the leading thoughts in this elegant discourse. President Wheeler was followed by Governor Wright, of Indiana, who spoke for a few moments in the style of true western eloquence. The trotting match, which was to have come off at 4 o'clock, was prevented by the rain. Attorney Gen. Drummond and several gentlemen from Canada were present, as well as several from New, York and other States. Mr. Tucker, of the *Albany Cultivator*, and our venerable friend, Major B. Wheeler, were of the number. It was estimated that there were 15000 people on the ground.

The rain is now falling copiously, and promises to spoil the plowing tomorrow. A few teams plowed this P. M. I left one of the Judges of this, Washington county, holding one of Ruggle's plows, and turning a furrow full 12 inches deep, from which I judge that you will judge that he is a Judge who will judge righteous judgment.

Yours truly,

Montpelier, Sept. 13, 1853. J. B.

POISONED VALLEY.

A singular discovery has lately been made near Batten, in Java, of a poisoned valley. Mr. Alexander Loudon visited it last July, and we extract a paragraph from a communication on the subject, addressed by him to the Royal Geographical Society:—

"It is known by the name of Guevo Upas, or Poisoned Valley; and following a path which had been made for the purpose, the party shortly reached it with a couple of dogs and fowls, for the purpose of making experiments. On arriving at the mountain, the party dismounted and scrambled up the side of a hill, at a distance of a mile, with the assistance of the branches of trees and projecting roots. When at a few yards from the valley, a strong, nauseous, suffocating smell was experienced; but on approaching the margin, the inconvenience was no longer found. The valley is about half a mile in circumference, of an oval shape, and about thirty feet in depth. The bottom of it appeared to be flat, without any vegetation, and a few large stones scattered here and there. Skeletons of human beings, tigers, bears, deer, and all sorts of birds and wild animals, lay about in profusion. The ground on which they lay at the bottom of the valley appeared to be a hard sandy substance, and no vapor was perceived. The sides were covered with vegetation. It was proposed to enter it; and each of the party having lit a cigar, managed to get within twenty feet of the bottom, where a sickening, nauseous smell was experienced, without any difficulty of breathing. A dog was now fastened to the end of a bamboo and thrust to the bottom of the valley; while some of the party with their watches in their hands, observed the effect. At the expiration of fourteen seconds he fell off his legs, without moving or looking around, and continued alive only eighteen minutes. The other dog now left the party and went to his companion. On reaching him, he was observed to stand quite motionless; and at the end of ten seconds fell down; he moved his limbs after, and lived only seven minutes. A fowl was now thrown in, which died in a minute and a quarter; and another, which was thrown in after it, died in the space of a minute and a half. A heavy shower of rain fell during the time that these experiments were going forward, which, from the interesting nature of the experiments, was quite disregarded. On the opposite side of the valley to that which was visited, lay a human skeleton, the head resting on the right arm. The effect of the weather had bleached

the bones as white as ivory. This was probably the remains of some wretched rebel hunted towards the valley who had taken shelter there, unconscious of its character."

CATTLE GNAWING BONES.

Mr. Editor:—I wish to inquire if you, or any of your numerous subscribers, can tell me why it is that my cows and other cattle have a liking to chew old bones that they find in the fields, that they will stand for hours and chew them; they will even leave their salt many times for this purpose. Please answer through the *Cultivator*.

May Flower, April, 1853. Vixen.

We can give no other reason than the appetite they acquire for some peculiar flavor possessed by the bones, or by the small remaining portions of muscle and gelatine which remains upon them. Animals sometimes show nearly as strong an appetite for certain substances, as some men do for tobacco. It has been said that the practice of chewing bones, arises from a natural instinct for phosphate of lime in such animals as do not get a sufficiency of this ingredient in their food, especially in those which are confined to old pastures which have exhausted the soil of its phosphate. This strikes us as exceedingly improbable; for, to say nothing about the extraordinary analytical discrimination which this would evince, throwing in the back-ground the most delicate tests of the longest-headed professors, it so happens that the animal's teeth usually make no impression whatever upon the hard bone, and only get small portions of the more soluble gelatine, &c. To test this matter, observe whether cows will continue their liking for bones, after small portions of bone-dust or dissolved bones have been mixed regularly with their food. We have known some animals, and colts more especially, to have an extraordinary propensity to chew leather, yet we never could discover that such animals possessed an idiosyncracy, but merely a depraved appetite. Some horses have a strange propensity to gnaw wood whenever they can lay their teeth upon it, without any particular object or reason.—*Country Gentleman*.

SUNDRY OBSERVATIONS.

Hens.—Why do hens scratch about the roots of trees and shrubs? Every gardener is exasperated by the obstinate pertinacity with which fowls uncover the roots of his roses, raspberries, cherry trees, and if there is any thing else which he especially wishes to protect and secure. The truth is that hens know where to look for their food; and at the roots of shrubs, are the precise places where worms are to be found; either because they feed on the sap of the plant, or wish to be ready to climb it in due season, or because a better protection than elsewhere is there afforded them.

"Shanghai hens will not scratch." Yes, but they *will* scratch, if not as bad as others as bad as they know how.

Hens are great lovers of lettuce. They do not ask for vinegar, or sugar, or oil to eat with it, but will mount into the hot bed and take it by word of mouth just as they find it, more to their own satisfaction than that of the gardener whose choice salad heads they spoil. Lettuce might profitably be sown for fowls when confined, and would conduce not simply to their "amusement," but to their comfort and health. Fowls need the food proper to the season. In summer they want grass and green succulent food, with but little grain; in winter they want grain, straw or hay, and meats.—*Prairie Farmer*.

THE SEASON AND CROPS.

The pinching drought of June and July has been succeeded by timely and copious rains, so that vegetation took a new start and has gone on vigorously up to this time, Sept. 19th. The aftermath, or second crop of grass, is greater than we have ever known it before; on many fields larger than was the first crop. Many barns have thus been filled beyond the expectation of their owners in the early season.

The *peach* crop is full to repletion—thousands of trees are broken down, and many persons will suppose, are ruined; but if the mutilated limbs are cut off smoothly in October, we are confident that it will be just such a process as a great many of the long, bare limbs, with a handful of leaves on their extreme ends, required. They have resembled the denuded legs of a poor Shanghae chicken, more than peach-bearing branches.

The *corn* crop has not yet been touched by frost, and is filling up for a heavy gathering. A large proportion of the stalks are cut, which gives opportunity to see that the crop will be more than an average one.

Potatoes, particularly chenangoes, have rotted badly. The Davis, black chanangoes, long red, Danvers seedling, and some others, have not suffered so much. Still, one-half, perhaps, of the whole crop, will be cut off.

Oats, *barley*, *rye* and *winter wheat*, where threshed, turn out a full average crop. *Fall feed* is abundant and sweet; no frosts have yet touched it.

On the whole, no labor has been better rewarded than that of the Farmer, and his annual tribute of thanksgiving should be hearty and free.

For the New England Farmer.

SWALLOWS.

Dear Sir:—The Chimney Swallows were seen here, for the last time this year, upon the 29th of August; the Barn Swallows on Sept. 3d, and the Martins, Sept. 1st.

Dr. Hubbard, the owner of one of our best farms here, lately made a curious calculation as to the number of grasshoppers upon his land. By pretty accurate measurement it was ascertained that there were *twelve bushels to the acre*.

Isn't this a model letter to an editor?

Yours truly, Ann E. Porter.

Springfield, Vt., Sept. 14, 1853.

Remarks.—The above is, truly, a model letter—*multum in parvo*. It contains just such facts as we are happy to place on record. It will lead

others into similar observations. We really hope Dr. HUBBARD has a thousand turkies!

COAL AGAINST SINEWS.—Professor Henry, President of the Mechanics' Institute of Washington, says: "It has been proved that, on an average, four ounces of coal are sufficient to draw, on a railroad, one ton a mile. It has also been found on experiment that a man working on a tread-mill continually for eight hours, will elevate one and one-half millions of pounds one foot high.

Now good Cornish engines will perform the same work by the expenditure of a pound and a half of coal. It follows from these data that about 5 tons of coal would evolve as much power during its combustion as would be equal to the continued labor of an able-bodied man for 20 years, at the rate of eight hours per day; or, in other words, to the average power of a man during the active period of his life."

GOING UP.—Wood is now selling in this city for eight dollars a cord, with the prospect of a decided upward tendency. Coal is also advancing. Flour sells for seven dollars, and seven dollars and twenty-five cents. All kinds of provisions are sold at enormous prices. Every article of groceries, too, has risen within the last month, and dealers assure purchasers that it will be for their interest to make immediate purchases, as provisions are still "going up."—*Chronicle.*

EXHIBITION OF HORSES.—There will be an exhibition of imported blood and American breeds of Horses at Springfield on the 19th, 20th, 21st and 22d days of October. The Exhibition is not local or sectional in its objects, but all citizens of the Union are invited to send their contributions and to join in the competition for the premiums. We are glad to notice this new interest in regard to the Horse. We will publish the rules and regulations and list of the premiums next week.

CHINA—INTERESTING EXTRACTS.—We take the following extracts from an authentic work, published by Mr. Williams, who, from a long residence in China, has been enabled to write knowingly upon the various subjects embraced in his work:

Animals of China.—The denseness of the population has long since entirely driven out all wild quadrupeds; and there are also few domestic ones, such as are found in Eastern countries. Beasts of burden are in a great degree superseded by the means of transport afforded by the numerous rivers and canals, and by the coolies or porters, a class of athletic men, who take the place of animals in carrying burdens and in dragging boats. Animals are excluded, to leave more food for men. There are no meadows for feeding cattle; but the entire soil is used in raising food for the inhabitants. Wild cats are sometimes caught, and are considered a great dainty. Monkeys are found in the south-west provinces. What few horses and asses are found in China are small, and very inferior in every respect. The buffalo is sometimes used in plowing. Dromedaries are used between Peking and Tartary. There are also hogs, goats, and sheep. There is but one variety of dogs in the country, an animal about one foot high and two long, resembling a small spaniel. Rats are very abundant, and furnish the common people with meat. They are very large and destructive to crops.

Of the *birds* in China, there are the eagle, the falcon, the magpie, crows, sparrows, cormorants, curlews, quails, pigeons, larks, pheasants, the rice birds, and many species of aquatic birds. Cormorants are used by the Chinese for catching fish. The falcon is imperial property, and the magpie is sacred to the reigning family.

Fish form a very important part of the food of the Chinese, and great care is taken in raising them in artificial fish ponds. The gold and silver fishes are kept in glass globes as ornaments. Among the fish eaten, are the cod, sturgeon, mullet, carp, perch, sea-bream, &c; crab-fish and oysters are common on the coast.

The larger species of *reptiles* are unknown in China. Frogs, lizards, and fresh water tortoises are common. Venemous serpents are very rare.

Boy's Department.

KINDNESS TO ANIMALS.

Once, when his father and the workmen had been cutting down a quantity of timber, Isaac discovered a squirrel's nest in a hole of one of the trees that had fallen. It contained four new-born little ones, their eyes not yet opened. He was greatly tempted to carry them home, but they were so young that they needed their mother's milk. So after examining them he put them back in the nest, and with his usual busy helpfulness went to assist in stripping bark from the trees. When he went home from his work toward evening, he felt curious to know how the mother squirrel would behave when she returned and found her home was gone. He accordingly hid himself in a bush to watch her proceedings. About dusk, she came running along the stone wall with a nut in her mouth, and went with all speed to the old familiar tree. Finding nothing but a stump remaining there, she dropped the nut and looked around in evident dismay. She went smelling all about the ground, then mounted the stump to take a survey of the country. She raised herself on her hind legs, and snuffed the air with an appearance of great perplexity and distress. She ran round the stump several times, occasionally raising herself on her hind legs and peering about in every direction, to discover what had become of her young family. At last she jumped upon the prostrate trunk of the tree, and ran along till she came to the hole where the babies were concealed. What the manner of their meeting was nobody can tell; but doubtless the mother's heart beat violently when she discovered her lost treasures all safe on the warm little bed of moss she had so carefully prepared for them. After staying a few minutes to give them their supper, she came out, and scampered off through the bushes. In about fifteen minutes she returned and took one of the

young ones in her mouth, and carried it quickly to a hole in another tree, three or four hundred yards off, and then came back and took the others, one by one, till she had conveyed them all to their new home. The intelligent instinct manifested by this little quadruped excited great interest in Isaac's observing mind. When he drove the cows to pasture, he always went by that tree to see how the young family were getting along. In a short time they were running all over the tree with their careful mother, eating acorns under the shady boughs, entirely unconscious of the perils through which they had passed in infancy.

Some time after, Isaac traded with another boy for a squirrel taken from the nest before its eyes were open. He made a bed of moss for it, and fed it very tenderly. At first, he was afraid it would not live; but it seemed healthy, though it never grew so large as other squirrels. He did not put it in a cage; for he said to himself that a creature made to frisk about in the green woods could not be happy shut up in a box. This pretty little animal became so much attached to her kind-hearted protector, that she would run about after him, and come like a kitten whenever he called her. While he was gone to school she frequently ran off to the woods and played with wild squirrels on a tree that grew near his path homeward. Sometimes she took a nap in a large knot-hole, or, if the weather was very warm, made a cool bed of leaves across the crotch of the boughs, and slept there. When Isaac passed under the tree, on his way from school, he used to call "Bun! Bun! Bun!" If she was there she would come to him immediately, run up on his shoulder, and so ride home to get her supper.

It seemed as if the animals were in some way aware of his kindly feelings, and disposed to return his confidence; for on several occasions they formed singular intimacies with him. When he was six or seven years old, he spied a crow's nest in a high tree, and, according to his usual custom, he climbed up to make discoveries. He found that it contained two eggs, and he watched the crow's movements until her young ones were hatched and ready to fly. Then he took them home. One was accidentally killed a few days after, but he reared the other, and named it Cupid. The bird became so very tame, that it would feed from his hand, perch on his shoulder, or his hat, and go everywhere with him. It frequently followed him for miles, when he went to mill or market. He was never put into a cage, but flew in and out of the house, just as he pleased. If Isaac called "Cu! Cu!" he would hear him, even if he were up in the highest tree, would croak a friendly answer, and come down directly. If Isaac winked one eye, the crow would do the same. If he winked his other eye, the crow also winked with his other eye. Once when Cupid was on his shoulder, he pointed to a snake lying in the road, and said "Cu! Cu!"—The sagacious bird pounced upon the head of the snake and killed him instantly; then flew back to his friend's shoulder, cawing with all his might, as if delighted with his exploit. If a stranger tried to take him, he would fly away, screaming with terror. Sometimes Isaac covered him with a handkerchief, and placed him on a stranger's shoulder; but as soon as he discovered where he was, he seemed frightened almost to death. He usually chose to sleep on the roof of a shed, directly under Isaac's bed room window. One night he heard him cawing very loud, and the next morning he said to his father, "I heard Cupid talking in his sleep last night. His father inquired whether he had seen him since; and when Isaac answered, "No," he said, "Then I am afraid the owls have taken him." The poor bird did not make his appearance again; and a few days after, his bones and feathers were found on a stump not far from the house. This was a great sorrow for Isaac. It tried his young heart almost like the loss of a brother.—*Life of Isaac T. Hopper, by Mrs. L. Maria Child.*

Advertising Department.

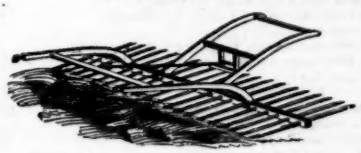
☞ A limited number of advertisements of an appropriate character will be inserted in the monthly Farmer at the following

RATES.

For one square of 15 lines, one insertion.....$1,00
For each subsequent insertion.....50

☞ The above rates will be charged for all advertisements whether longer or shorter.

Haying Tools.



1000 dozen superior Grass Scythes.

PHILLIPS, Messer & Colby's—Darling's—Farwell's—Mansfield & Lamb's—Keyes & Dunn's.
Also Lawn, Grain and Bush Scythes, of the best quality.

1000 dozen Scythe Sneaths.

Patent Grass, Lawn and Bush Sneaths, from the best manufacturers in the country.

2500 dozen Hay Rakes.

Hall's, Simonds's, Carpenter's, Page & Wakefield's, Robinson's, Duggan's and English best Hand Rakes.

500 Drag Rakes.

This Rake is a hybrid between the Hand and Horse Rake every good farmer should have one or more.

3000 dozen Scythe Rifles.

Clark's celebrated Whetstone Grit and Emery Rifles. Also, Austin's, Anson's, Willard's, and others.

200 gross Scythe Stones.

Quinebaug, Chocolate, Norway Rag and Indian Pond; also, Woodward and Talacre (English) Scythe Stones.

20 tons Grindstones.

A well selected assortment of the celebrated Blue Sheet, warranted. Also, Grindstones of all sizes, mounted on frames and rollers complete.

Grindstone Fixtures, viz: Flanges, Arbors, Cranks and Rollers.

800 Horse Hay Rakes.

Delano's Patent Revolving and Spring Tooth Hay Rakes; all of which will be sold at wholesale or retail, at very low prices, by RUGGLES, NOURSE, MASON & CO.,
Over the Market, Boston.

June 25, 1853.

Suffolk Pigs.

Suffolk Pigs and Breeding Sows for sale, by GEORGE W. WILSON, Malden, in Mass.

Also, to be seen the most perfect Boar in the country.

July 16, 1853. 6m

The Farmers' Library.

JUST RECEIVED, the following assortment of Agricultural and Horticultural Books, embracing the standard works of eminent American and European writers, on the Farm, the Orchard, the Garden, &c. &c.

	PRICE.
American Farm Book, by Allen,	$1,00
Farmer's Treasure, by Faulkner and Smith,	75
Dana's Muck Manual,	1,00
Prize Essay on Manures, by Dana,	25
American Muck Book, by Browne,	25
Lectures on Practical Agriculture, by Johnstone,	75
Elements of Scientific Agriculture, by Norton,	50
Principles of Agriculture, by Thaer,	2,50
Practical Agriculture, by Johnstone,	75
Agriculture for Schools, by Blake,	1,00
Catechism of Agriculture and Chemistry, by Johnstone and Norton,	25
American Agriculturist, by Allen,	1,00
Liebig's Complete Work on Chemistry,	1,00
Farmer's and Emigrant's Hand Book, by Marshall,	75
Home for all, by Fowler,	50
Book of the Farm, by Stephens and Skinner,	4,00
Cottage and Farm Houses, by Downing,	2,00
Downing's Country Houses,	4,00
Rural Architecture, by Allen,	1,25
Downing's Landscape Gardening and Rural Architecture,	3,50
Downing's Cottage Residences,	2,00
Fruit Garden, by Barry,	1,25
Complete Gardener and Farmer, by Fessenden,	1,25
Bridgeman's Gardener's Assistant,	2,00
Bridgeman's Kitchen Gardener's Instructor,	50
American Fruit Culturist, by Thomas,	1,00
Gardener and Complete Florist,	25
Florist's Guide, by Bridgeman,	50
New England Fruit Book, by Ives,	
Youatt and Martin on Cattle, by Stevens,	1,25
Rose Culturist,	38
Johnson's Gardener's Dictionary, by Landreth,	1,50
Rural Economy, by Boussingault,	1,00
American Rose Culturist,	25
Bigelow's Plants of Boston,	1,25
Genera of Plants of the U. S., by Gray, 2 vols.	12,00
Gray's Botany,	2,00
Parnell's Chemistry,	1,00
New England Farmer, by Cole,	1,00
Ladies' Guide and Skilful Housewife, by Mrs. Abel,	25
Hive and Honey Bee, by Richardson,	25
Bee Keeper's Manual, by Miner,	50
Bird Fancier, by Browne, paper 25 cents,	50
Townley on Bees,	50
American Poultry Yard, by Browne,	1,00
American Poulterers' Companion, by Bement,	1,00
American Fowl Breeder, by Moore,	25
American Herd Book, by Allen,	3,00
American Shepherd, by Morrill,	1,00
Domestic Animals, by Allen,	75
Diseases of Animals, by Cole,	50
Hints to Sportsmen, by Lewis,	1,25
Dadd's Anatomy and Physiology of the Horse,	1.00
Mason's Farrier and Stud Book, by Skinner,	1,25
Management of Sheep, by Canfield,	1,00
Youatt on the Pig,	60
Knowlson's Complete Cow Doctor,	25
Horse Doctor,	25
Guenon's Treatise on Milch Cows,	38
Treatise on Hot Houses, by Leuchars,	1,00
Allen on the Grape,	1,25
Schenck's Text Book,	50
Breck's Book of Flowers,	75
Downing's Fruit and Fruit Trees,	1,50

For sale at the Publishers' prices by RUGGLES, NOURSE MASON & Co., Quincy Hall, (*over the Market,*) Boston.

Jan. 1, 1853. tf

Old Colony Nurseries.

Wanted, 5 to 10,000 Apple Stocks of good quality. Apply to B. M. WATSON, Old Colony Nurseries, Plymouth, Mass., where may be had every variety of Fruit and Ornamental Trees and Shrubs, Plants, Green-house Plants, &c.; also, Pear, Cherry, Plum, Paradise and Mahaleb Stocks, for Nurseries.

A great variety of young Ornamental Trees and Shrubs, from $3 to $10 per 100, for Nurseries or ornamental planting. Dahlias, Verbenas, Roses, Pea Heliotropes and Fachrias, new dwarf Chrysanthemums, (100 sorts,) Phloxes, Iris, Herbaceous Plants, Japan Lilies, &c., in great variety, including many novelties lately imported. Strawberry plants in 80 varieties.

Carriage paid to Boston. Catalogues gratis, and prepaid on receipt of one stamp.

Feb. 26. tf

AGRICULTURAL

WAREHOUSE AND SEED STORE,

QUINCY HALL, OVER THE MARKET, BOSTON.

THE Proprietors having recently enlarged their Warehouse, and increased their works at Worcester, would respectfully invite the attention of Planters and Dealers in AGRICULTURAL & HORTICULTURAL IMPLEMENTS, GARDEN and FIELD SEEDS, &c., to their stock, comprising the largest and best assortment to be found in the United States, which are offered at low prices.

Of PLOUGHS—we have the greatest variety of kinds and sizes.

Improved Sod Ploughs, for flat furrows—improved Scotch Ploughs for lapped furrows—improved Stubble Ploughs, which are especially adapted to deep tillage, or varying from 6 to 12 inches in depth.

Self-sharpening, Hill Side, Sub-soil, Double Mould, Corn, Cotton and Rice Ploughs.

Cylinder Hay Cutters, Smith's Patent Lever Gate, and others. Patent Corn Shellers, with and without Separators. Seed Sowers, of various sizes and prices. Batchelder's patent Corn Planter, improved. Fanning Mills of various sizes, Horse Powers, Threshing Machines, thermometer Churns, Robbins' patent Centrifugal Churn, Cylinder Churn, Dash Churn, Corn Planters, together with almost every article wanted on the Plantation, Farm or Garden.

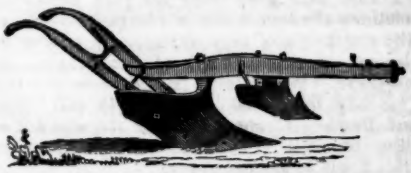
Illustrated Catalogues sent gratis on application, post paid.

RUGGLES, NOURSE, MASON & CO.

Boston and Worcester, Mass., Jan. 1, 1853 tf

THE BOSTON AND WORCESTER

EAGLE DOUBLE PLOWS.



THE superior merits of these Plows, consist in,

1. The mode of attaching the forward mould-board to the beam, by which great strength and durability are secured, as also the various desirable changes in depth of work, and relative depth of each plow, the same being regulated to any shade of nicety, with perfect facility.

2. The entire and handsome overturning of the sod furrow, by the forward mould-board, to the extent of the whole width of furrow taken by the plow, placing it beneath, out of the way of the teeth of the harrow, cultivator, or other implement, so that it is in no case dragged to the surface in the after-cultivation of the crop:

3. The thorough and finished work done by the rear mould-board, in taking up its furrow of under soil and sifting or scattering it over the inverted sod, so as to entirely fill to the surface, and at the same time break open any undue cohesion of the soil, leaving the plowed land in a finely pulverized condition, requiring little labor with the harrow or other surface-working instrument,—and indeed, in all tolerably free loams, rendering the use of these instruments, as pulverizers, quite unnecessary:

4. The remarkably light draught of the plow, in proportion to the amount of work and the thoroughness of pulverization accomplished.

Several sizes of the BOSTON & WORCESTER EAGLE DOUBLE PLOW, are made by the subscribers, from patterns of their own original invention. They invite their friends and customers to examine these Plows, as to quality and durability of material, thoroughness and finish of construction, and to test their working properties.

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East Marshfield, Plymouth County, Mass.

Aug. 20, 1853. 6w

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JOHN W. BRUCE.

Amherst, N. H., Sept. 17, 1853. 3w

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B. G. & C. CHACE.

Somerset, June 4, 1853. tf

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